

A large, faint, light-gray watermark of the NovaStor logo is centered on the page, behind the main title text.

# **NovaBACKUP<sup>®</sup>**

## ***User Manual***

**NovaStor / April 2015**

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## **Installing the Software**

### **Installing from downloaded file:**

Run the SETUP.EXE program to install NovaBACKUP.

### **To install from CD:**

Insert the CD into your CD-ROM drive. In most cases, SETUP.EXE will automatically begin. (If this fails to work, double click the SETUP.EXE file on the CD).

## Getting To Know the User Interface

### The User Interface

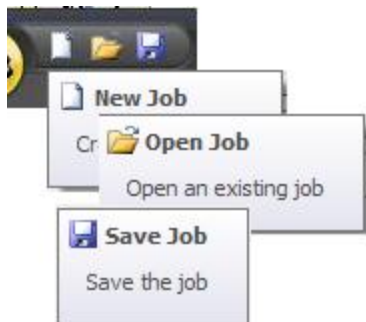
The user interface consists of a single main screen. At the top of this screen you'll find the "Launch Button", "Quick Access Toolbar" and a set of seven tabs.

#### Launch Button



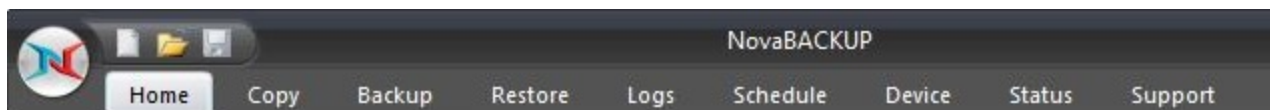
The Launch Button is in the top-left corner of NovaBACKUP. It provides fast access to files and frequently used commands. From here, you can quickly create a new job, open, run and save an existing job, or import previous backup jobs.

#### Quick Access Toolbar



From here, simply click on the appropriate icon to create a new job, open an existing job or save the current job.

### Tabs



The Home tab contains convenient information about your previous and next scheduled backup as well as useful shortcuts and the "Quick Select" feature. The Backup tab allows you to select files and folders to backup. Similarly, the Copy tab allows you to select files and folders to be copied to another destination. The Restore tab enables you to make selections in order to restore files and folders. The Schedule tab provides a means to schedule backup jobs to run at a future time/date. The Logs tab provides access to logs for previously run jobs. The Device tab provides a means to configure and view backup devices. The Status tab give you a method to view the progress of the currently running job.

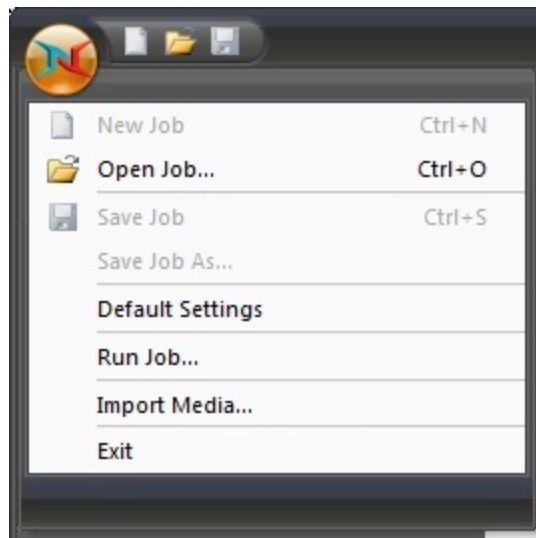


The file lists in the Backup, Copy and Restore tabs look very similar to the Windows Explorer, which makes it familiar and easy to use. Selected files can be browsed by expanding the drives or network resources in the tree view display on the left-hand side. Next to each folder and file is a check box. These are used for adding and removing files from the selection list.

Note: The name of the currently selected job is listed at the top of the NovaBACKUP program window.

## Launch Button

The Launch Button is in the top-left corner of NovaBACKUP. It provides fast access to files and frequently used commands. From there, you can quickly create a new job, open, run and save an existing job, or import previous backup sets.

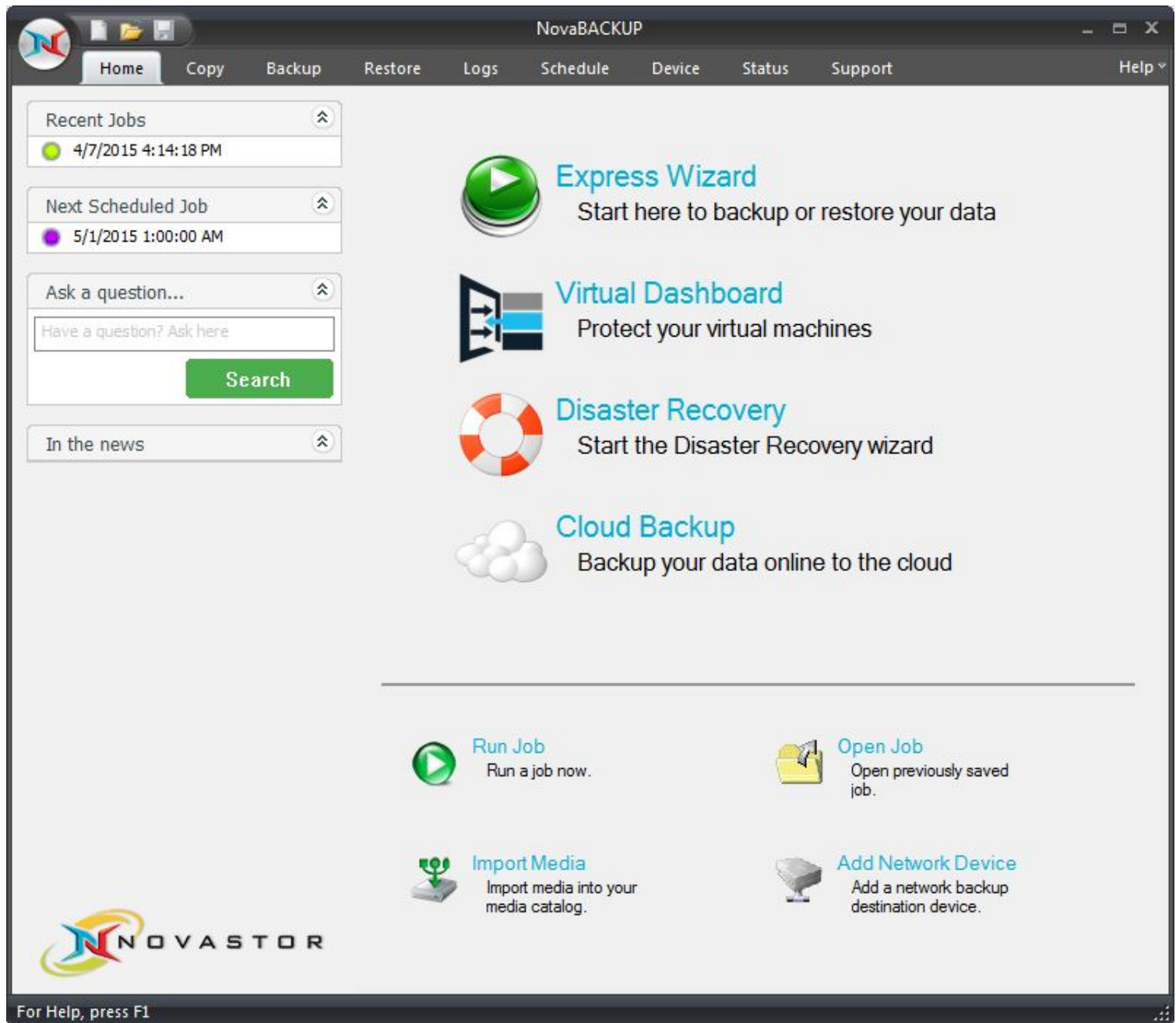


Item	Detail
New Job	This will allow you to create a new job based on the tab selected.
Open Job	This will allow you to open a previously saved job.
Save Job	This will allow you to save the current job.
Save Job As	This will allow you to save the current job using a different name.
Default Settings	Default Settings.
Run Job	This will allow you to run a previously saved job.
Import Media	This will allow you to import backup jobs that do not appear in the Restore View. These backup jobs are usually created with previous installations of or from other computers running NovaBACKUP.
Recent Files List	From this list, you can select a recently used job.

**Exit** This exits the application.

## HomeTab

On this tab, you will find the task window on the left containing summary information on the most recent and next scheduled operations, the link to configure global settings and display the help file.



### Left panel items:

Click on any of the "Recent Tasks" items to open the corresponding log file for review.

Click on any of the "Next Scheduled Task" items to open the corresponding schedule to view or edit.

#### **Main selections:**

##### **The Express Wizard**

The Express Wizard provides a step by step method to perform many common tasks available in the application. Topics will be added soon which outline the features and steps available in the Express Wizard.

##### **Virtual Dashboard**

The Virtual Dashboard is where all VMware and Hyper-V backups that are capable of restoring individual files take place. It is also the center of VMware and Hyper-V replication operations. These backups are not the same as backups that are done through the Backup tab.

##### **Disaster Recovery**

The Disaster Recovery selection opens the screen where either the Disaster Recovery scheduler application wizard may be launched.

##### **Cloud Backup**

Click Cloud Backup to setup a cloud backup device through our network of selected partners.

#### **Utilities:**

**Run Job**- Clicking this link allows you quickly select a specific Backup, Copy or Restore task to run. After making your selection, click "Run" and the specific task will be performed immediately.

**Open Job** -Select this link to open a previously save Backup, Copy or Restore job permitting the job to be updated, saved or run.

**Import Media**- This link launches the Import Media function allowing you to add details for media not already saved to the current NovaBACKUP database. For example, media from another system or installation of NovaBACKUP.

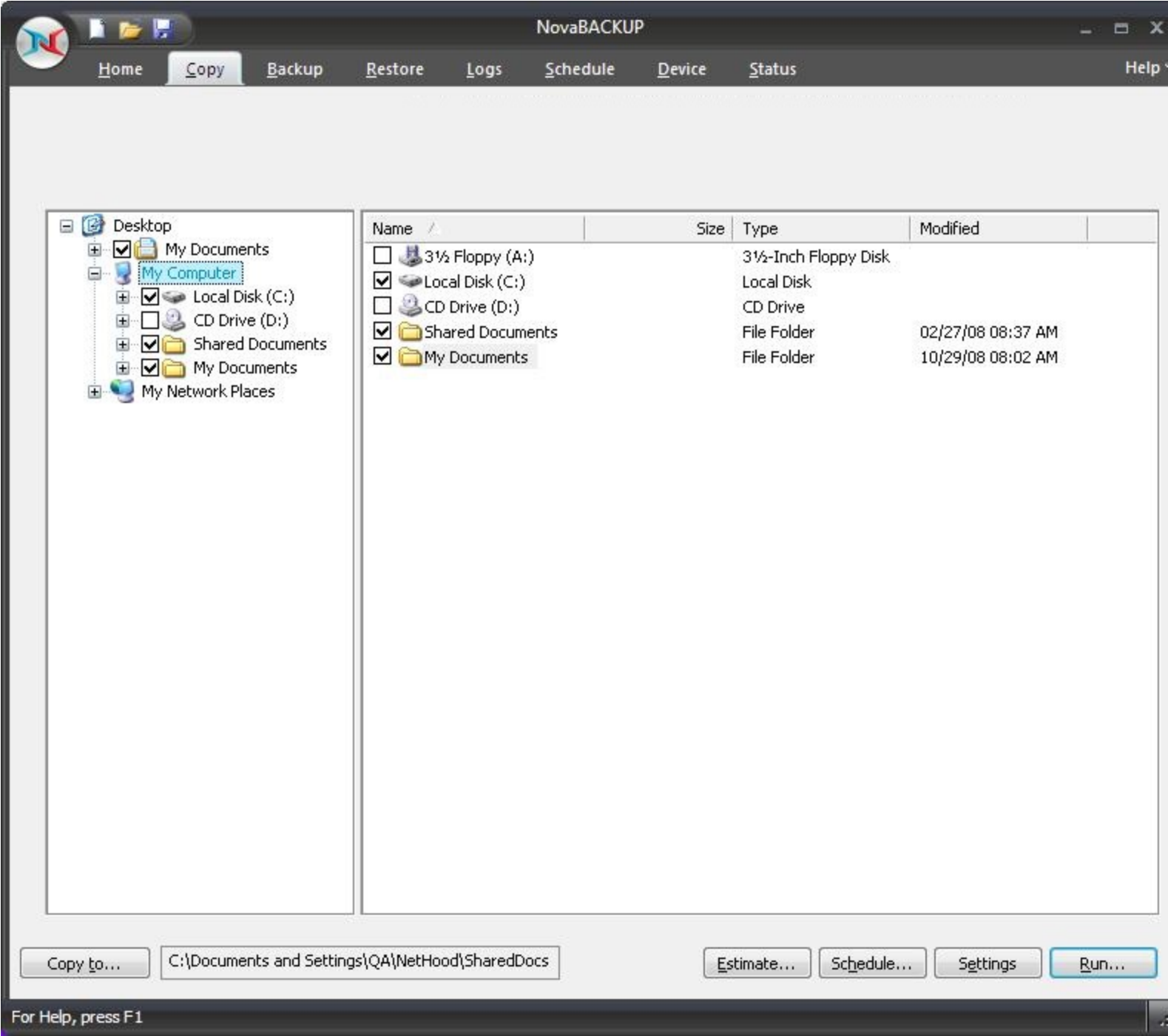
**Add Network Device** – Click this link to create a new network storage device. Once the device is created you can manage the device as well as all other deices by clicking the device tab.

##### **Copy Tab**

From here, you can create a job that will copy the files/folders you specify from one location to another. The different options available allow you to adjust the copy job to your specific needs.



**What are copy jobs?** Copy jobs are combinations of directories and files that are selected as well as any of the options (including filters) that go along with that specific copy job. Copyjobs differ from backup jobs in that they result in the exact same set of files being "copied" or transferred to the destination device including: Hard Disk, Network Drive, and online storage. Note: Copy jobs DO NOT permit the use of tape.



## Button Functions

### "Copy To" Button

Click this button to display a dialog showing all available devices. From here, select the destination device and/or path you want to use for this job

### "Make Folder" Button

By highlighting an existing path and clicking this button, you are able to create a new, empty folder

### "Estimate" Button

This will allow you to find out the estimated number of files and size of the current copy job. Once selected a "Estimate" box will appear with the following information:

#### ***Files***

This indicates the Count (number of files) and Size (In Gigabytes) that you have selected for the job. This is especially helpful if the size of a copy is an issue when attempt to copy files to external devices with limited space such as USB Devices.

#### ***Folders***

This indicates the number of folders that you have selected for the job.

### "Schedule" button

[This button](#) is used for the schedule options. Within this window, you will be able to schedule the job as well as name it. You have various scheduling options including; one time, minute, hourly, daily, weekly, or monthly. You may also set the time and date of when the job will run.

### "Settings" button

This will take you to the Advanced options for this specific copy job. Refer to the Copy Job Settings Topic for further information

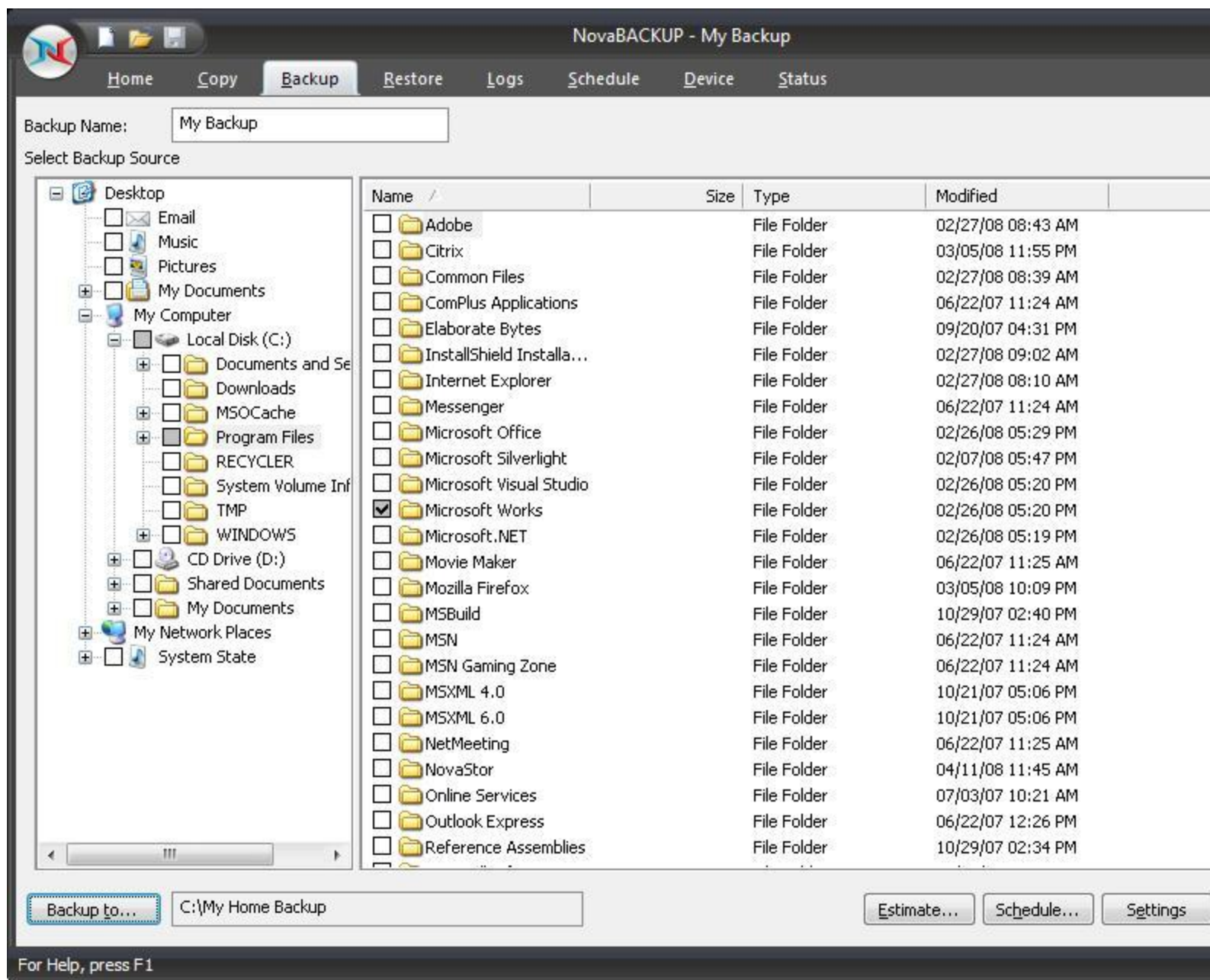
### "Copy" button:

This button starts the selected copy job immediately.

## Backup Tab

Using this tab, you can create a backup set that will include the files that you specify. The different options available allow you to adjust the backup job to your needs.

You may select items from the "Select Backup Source" pane. Folders and volumes will be on the left and files on the right. You may select a descriptive name for the backup job by enter it in the "Backup Name" field at the top. This will allow you to clearly identify each job on a specific media.



### Backup Job Name

In this text box, you can input an optional name for the current backup job you are creating. Be sure not to confuse this with the file-name of the backup job. The backup job name is essentially a descriptive name that you have assigned to the actual backup job file. A default job name will be assigned to each new backup indicating the date and time within the name. This name structure is just one way to help organize your backup jobs.



***What are backup jobs?*** Backup jobs are combinations of directories and files that are selected for backup as well as any of the options (including filters) that go along with that specific backup. Backup jobs are used to allow one or more collections of files to be backed up at different times. For example, one backup job could be created for accounting data, and another backup job could be created for important data that changes daily. The important data might be backed up daily or even hourly, while the accounting data could be backed up at the end of the week.



*Remember that setting a backup job name is optional and is meant to aid in managing backup jobs. For instance, under the Logs Tab, which will be discussed later, a listing of previous backup activity can be seen. Each of these logs is indicated by a Backup Job Name and a date. If you do not specify a Backup Job Name for any of your backup jobs, it will be a daunting task to differentiate the several backups solely by the dates and times of each of the backups. Thus, it is highly recommended that you assign a name to each of your backup jobs in order to ease your ability to distinguish the different backups.*

## **Button Functions**

### **"Estimate" Button**

This will allow you to find out the estimated number of files and size of the current backup job. Once selected a "Estimate" box will appear with the following information:

#### ***Files***

This indicates the Count (number of files) and Size (In Gigabytes) that you have selected for the job. This is especially helpful if the size of a backup job is an issue when attempting to backup files to external devices with limited space such as USB Devices.

#### ***Folders***

This indicates the number of folders that you have selected for the job.

### **"Schedule" button**

[This button](#) is used for the schedule options. Within this window, you will be able to schedule the job as well as name it. You have various scheduling options including; one time, minute, hourly, daily, weekly, or monthly. You may also set the time and date of when the job will run.

### **"Settings" button**

This will take you to the Advanced options for this specific backup job. Refer to the Backup Job Settings Topic for further information.

### **"Backup To.. " button**

Click this button to display a dialog showing all available devices. From here, select the backup destination device and/or path you want to save the backup to

### **"Backup" button**

This button starts the selected backup job immediately.

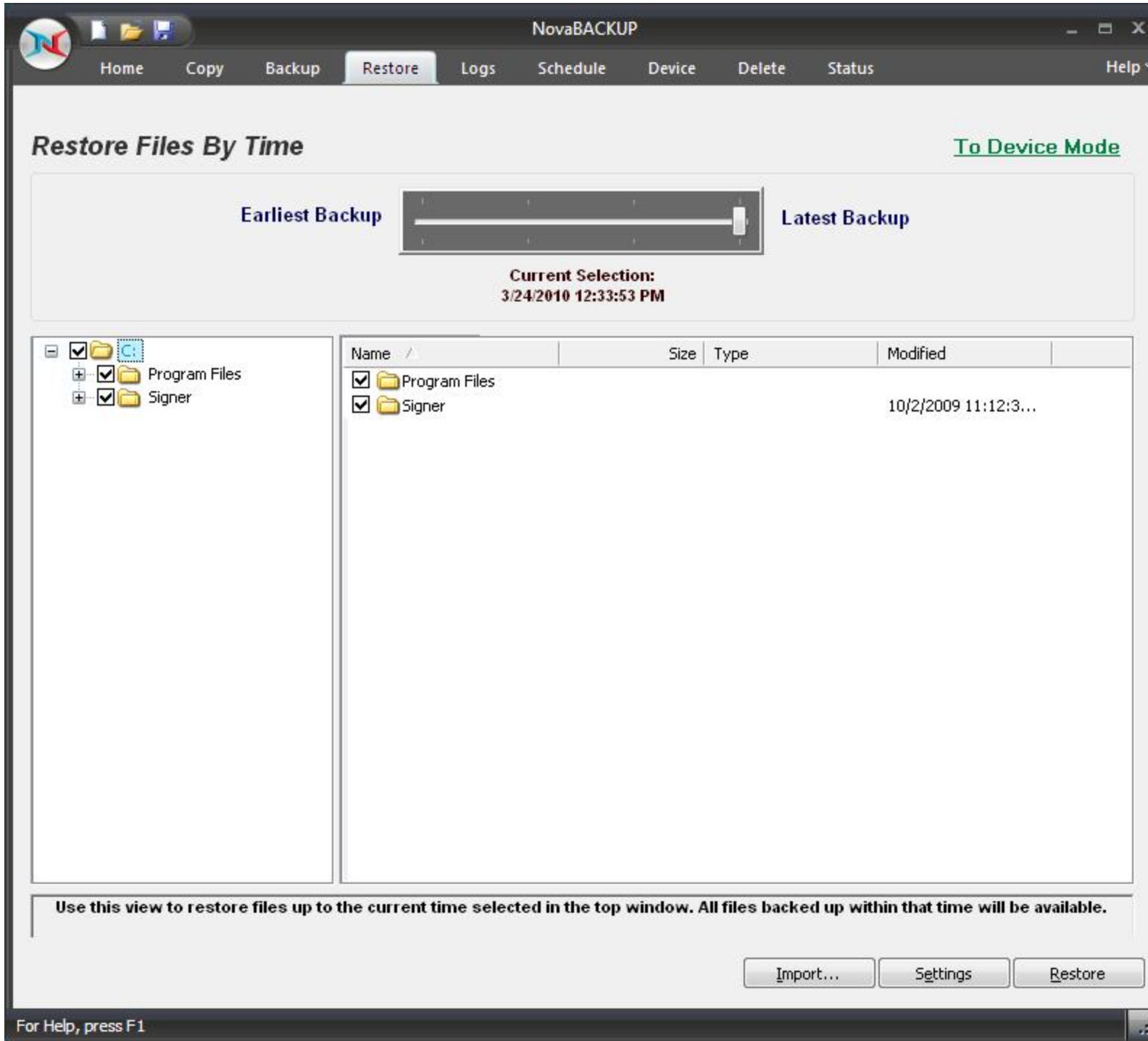
### **Restore Tab**

Under the Restore tab you will find all the folders/files from previous backups that you can restore either to the original or alternate location.

### **Restore Files By Time**

This 'TimeSlider' view uses a patent pending technology to provide a single restorable fileset without the need to select the backup source device. Using the slider, files are listed based on the range of time the backup has run.





### Restore Files By Device

This view displays a restorable fileset contained in a specific backup. Use the device view in the upper window to select the location of the backup and the backup session containing the files available to restore.

NovaBACKUP

Home

Copy

Backup

Restore

Logs

Schedule

Device

Delete

Status

Help

Restore Files By Device

To Time Mode

Media	Type	Created on	Total Files	Total Bytes	Location (Device)
My Media	Volume	3/24/2010 12:33:53 PM			C:\
xSP Accounts					
xSP device.0	Volume	3/24/2010 12:38:26 PM			
xSP Data	Backup Set	3/24/2010 12:38:26 PM			

☒

Program Files

☒

Program Files

Name	Size	Type	Modified
<input checked="" type="checkbox"/> Program Files			

Use this view to restore files from a specific backup. Choose the backup by expanding a device in the top window.

Import...

Settings

Restore

For Help, press F1



### ***Why don't I see any media listed?***

*If you are unable to see anything populated in the media view, you might need to perform an import on the media which is explained below in the import section.*

### **Select Backup Job**

From the Media View in the top window, you will see a list of available backups that you can restore from. Simply select the backup you would like to restore by double-clicking the entry and a listing of the folder/files included in that backup will appear in the windows below.

### **The Media View - Restore Mode**

This window allows you to view all available backups to restore from, based on the database of backup jobs and folder/file selections cataloged within the database. All backups are categorized by destination type (Disk, Removable Disk, Internet, and Tape) and further categorized by backup job name. This view is similar to the Media View as seen in the Backup mode. However, only destinations with backups available for restoration will be listed.

### **Select Restore Item(s)**

These selection windows are similar to the ones seen on the Backup Tab. Here, a listing of files and folders will be displayed once a backup job has been selected for restoration. The only files and directories that will be listed are the ones that were included in the backup job that you are restoring. In the selection windows, you can select files and/or folders just as you did in the Backup Tab when you selected the files for backup.



*By default, if you are restoring files to their original location, files that already exist in that location will not be overwritten by the files that are to be restored. Check your Restore Setting to alter this.*

### **Button Functions**

#### **"Import" Button**

This button will allow you to import backup jobs that are not in the currentNovaBACKUPdatabase. Simply click on the button and browse to the backup job that you desire to import. Once imported into database, the backup job will then be listed in the media view, and available for restoration.

#### **"Settings" Button**

This button will allow you to access some options that you have in the restore process. These options are discussed in Restore Job Settings Topic.

#### **"Restore" Button**




Once you have selected the files, folders, or drives that you want to restore, you may press this button to start the restore immediately.

*If you are restoring from a complete set of spanned media, you should always select the first piece of media as your first restoration media. NovaBACKUP will prompt you to insert each subsequent piece of media if necessary. You must have all media available to do the restore. If your backup consists of 5 pieces of media and media #3 is corrupt/missing/damaged, you will only be able to restore data from the first two pieces of media.*

From here, you can quickly determine the status of a Copy, Backup or Restore job that was performed.

The columns in the summery view include:

You can quickly determine the status of the backup by the color-coded icon next to each operation:

-  Operation completed successfully
-  Operation completed, but had warnings
-  Operation had errors

**Job Name:** The name of the job for this log file

**Date/Time:** The Date & Time the specific job was run

**Errors:** The number of errors encountered after running the job

**Warnings:** The number of warnings encountered after running the job

**Objects Selected:** The number of objects selected before running the job

**Objects Completed:** The number of objects successfully completed after running the job

**Size Completed:** The total size of all objects successfully completed after running the job



You can quickly sort the logs view by clicking on the appropriate column heading at the top of the window

### Button Functions

### Configure Reports

Click this button to use the [summary reports](#) feature.

### Delete Button

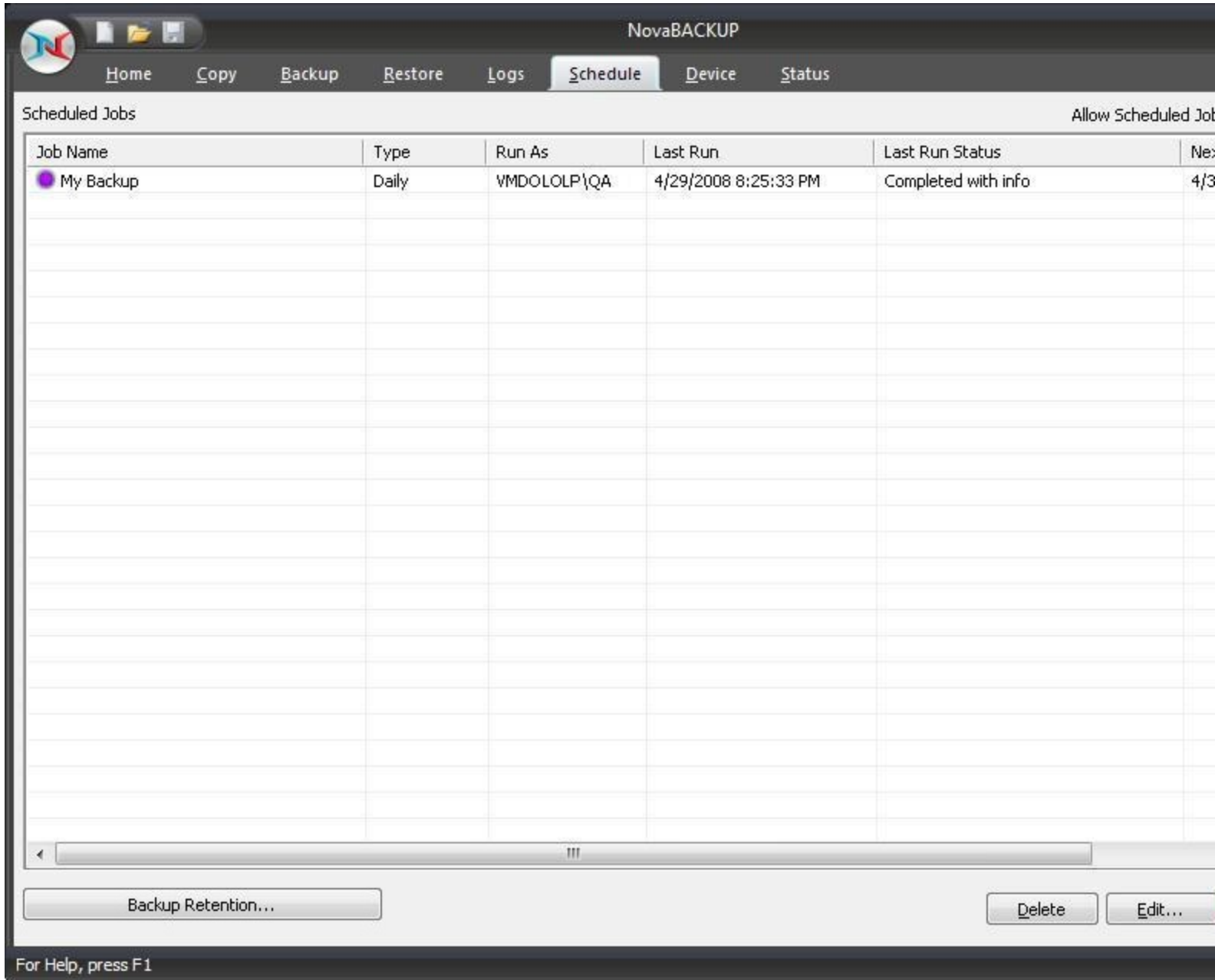
To delete a log file, simply select the log file and press the *Delete* button. To delete multiple log files, you may select more than one by using the Shift and/or Ctrl buttons on your keyboard to select the logs and pressing the Delete button.

### View Button

To view the log file, select the log you would like to open and press the View button. Alternatively, you may also simply double-click the log file you want to view. For further details, see the [Using the Logs](#) section.

### Schedule Tab

From this tab you are able to view, modify, add, run, and delete scheduled tasks.



Remember: *You can quickly disable all schedules from running by unchecking the option - "Allow scheduled jobs to execute"*

**Job Name:** Job or Script Name

**Run As:** Account used to run the job,

**Last Run:** When the job last ran

**Last Run Status:** The status the last time the job ran - includes:

**Completed** - The scheduled job completed with no information (log)

**Completed with info** - The scheduled job completed successfully and a log was generated


**Completed with warnings** - The scheduled job completed but had warnings

**Completed with errors** - The scheduled job completed but had errors


**Failed** - The scheduled job failed to run


**Next Run:** When the job is scheduled to run again

**Current Status:**

 Waiting - Schedule is waiting to run

 Running - Schedule is running

 Held - Schedule has been placed on hold

 Error - Schedule will not run again until the error is corrected (Invalid Credentials, no media, no device available)

## Right-Click Functions

Right-clicking on any of the listed schedules displays a menu with the following functions:

**New** - Create a new schedule

**Hold/Resume Schedule** - Permits the selected schedule to be placed on hold or resumed if already held

**Modify Schedule** - Displays the schedule details so they can be viewed/modified

**Modify Job** - Displays the specific job details so they can be viewed/modified

**Run Now . .** - Runs the job associated with the selected schedule immediately

**View Log** - Displays the log details of the scheduled job the last time it was run

**Delete** - Deletes the selected schedule item from the list

## Button Functions

### Delete Button

This button will allow you to delete the selected schedule item from the list, regardless of its status.

### Edit Button

[This button](#) will allow you to edit the selected schedule item.

### Add Button

[This button](#) will allow you to create new scheduled tasks.

### Backup Retention Button

Click [this button](#) to display the screen which is used to define a backup retention job.

## Device Tab

The Device Tab shows a list of all available storage devices jobs can be configured to utilize. In from this tab, you're able to add, modify and delete devices

[illegible]



## Right-Click Functions

Right-clicking on any of the listed devices displays a menu with functions appropriate to the device:

### Hard Drive, Removable Hard Drives, Networked Drives & Tape:

**Import** - Allows you to import backup jobs that are not in the current NovaBACKUP database

### & Tape Devices

**Eject Media** - Eject the currently inserted media

**Quick Erase Media** - Performs a quick erase (header information is erased, but data remains)

**Full Erase Media** - All data is erased from media

### Internet and Network storage devices

**Delete Device** - Deletes the currently selected Internet device

**Properties** - List the properties associated with the selected device

## Button Functions

**"Add" Button** (Only applies to Internet and Network Devices)

Launches the Internet and Network Device dialog.

**"Delete" Button** (Only applies to Internet and Network devices)

Deletes the currently highlighted Internet device from the list.

**"Refresh" Button**

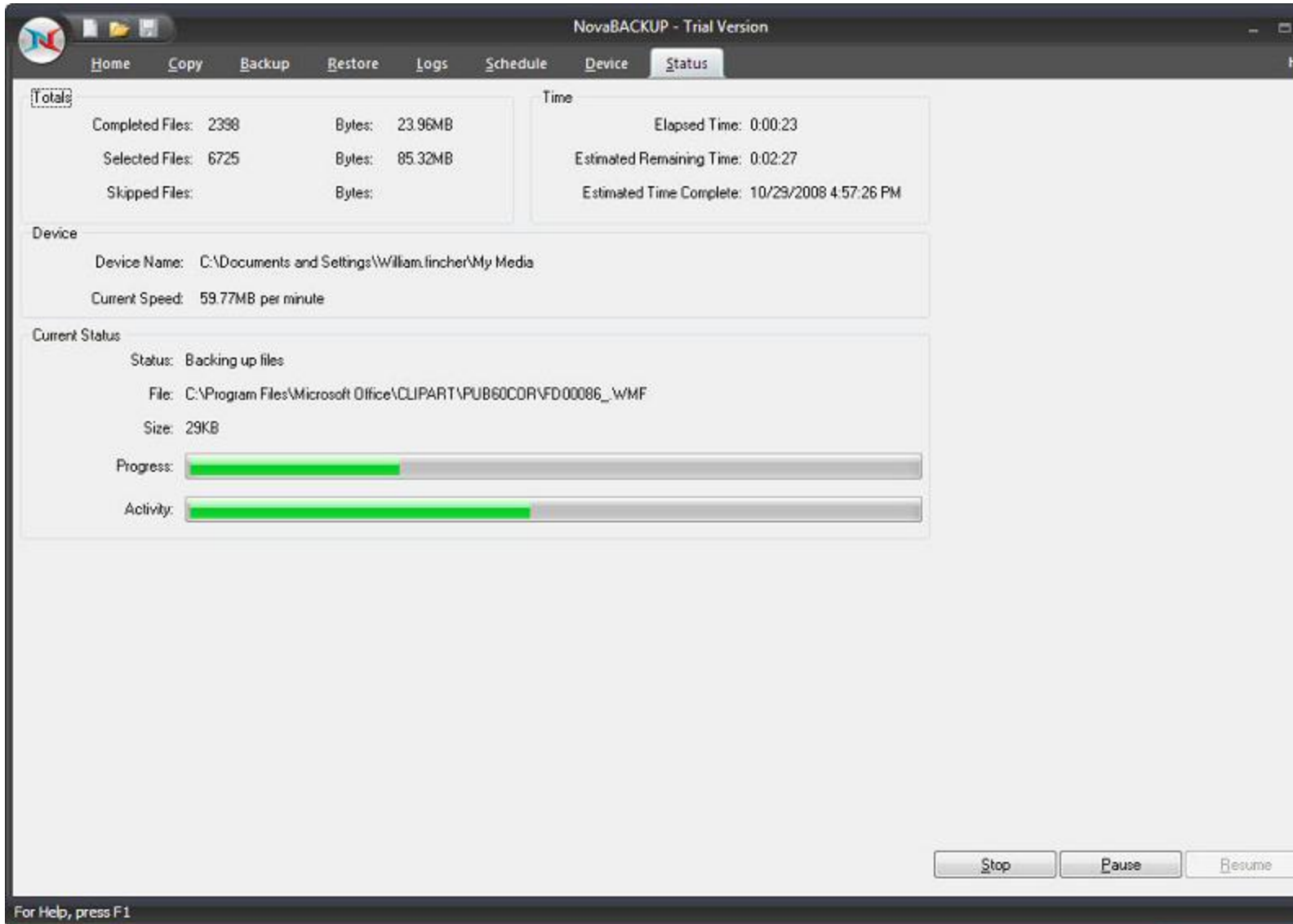
Refreshes the device view to include newly added or connected devices.

**"Properties" Button** (Only applies to Internet and Network devices)

Displays the properties of the highlighted Internet and Network devices. You can also display the device properties by double-clicking on the device in the list.

## Status Tab

From here, you can quickly determine the status of a currently running job



The status view includes the following sections and items:

### Totals

**Completed Files/Bytes** - The number of files and bytes successfully completed

**Selected Files/Bytes** - The total number of files and bytes selected by the job

**Skipped Files/Bytes** - The number of files and bytes that were skipped while running the job

### Time

**Elapsed Time:** Hours:Minutes:Seconds representing the total amount of time the current job has been running

**Estimated Remaining Time:** Hours:Minutes:Seconds representing the estimated time remaining for the current job to complete (This figure is an estimate only - actual time may vary)

**Estimated Time Completed:** Date/Time representing the estimated completion time of the current job (This figure is an estimate only - actual time may vary)

### Device

**Device Name:** The name of the device/media used for the currently running job

**Current Speed:** The speed (thruput) of the data being transferred for the currently running job

#### Current Status

**Status:** Status of the currently running or completed job

**File:** The file currently being transferred

**Size:** The size of the file currently being transferred

**Progress:** The progress bar representing the percentage completed of the currently running job (This is an approximate indication of job completion. Actual percentage may vary).

#### Button Functions

**"Stop" Button** - Stops the currently running job

**"Pause" Button** - Pauses the currently running job - Job remains active

**"Resume" Button** -Resumes the previously paused job

### The Express Wizard

The Express Wizard provides a step by step method to perform many common tasks available in the application. Topics will be added soon which outline the features and steps available in the Express Wizard.

## Virtual Dashboard

The Virtual Dashboard is where all VMware and Hyper-V backups that are capable of restoring individual files take place. It is also the center of VMware and Hyper-V replication operations. These backups are not the same as backups that are done through the Backup tab.

In order to access the Virtual Dashboard users will need to start NovaBACKUP and then click "Virtual Dashboard" from the "Home" tab.

### Adding a hypervisor

Upon opening the Virtual Dashboard users will be prompted with the option to add a hypervisor. Click the **Add** button at the top of the Hypervisor's menu. Once clicking "**Add**" users will be prompted to enter information relating to their Hypervisor.

**Note:** If there are already VMware hosts added through the legacy backup functionality in NovaBACKUP, those servers will already be added to the Virtual Dashboard.

## Adding a VMware hypervisor

Once users are in the "*Add*" menu of the Virtual Dashboard, select VMware. Users will then have four options:

**Display Name:** This is the friendly name for the hypervisor. This can be anything and is designed for ease of use.

**Hostname / IP Address:** The Hostname or IP address of the VMware ESXi or vCenter application

**Username:** The username with access to the ESXi or vCenter application.

**Password:** The password for the user

**Test / Save:** Test the provided configuration or Save the provided configuration. Clicking Save will also test the credentials.

## Adding a Hyper-V hypervisor

Once a user is in the "*Add*" menu of the Virtual Dashboard, select Hyper-V. Users will then be presented with two options:

### Editing a local Hyper-V hypervisor

If NovaBACKUP is being installed onto a local Hyper-V host, users will not need to enter user credentials to access the Hyper-V service. Users will need to add two fields of information.

**Display Name:** This is the friendly name for the hypervisor. This can be anything and is designed for ease of use.

**Hostname:** This is the Fully Qualified Domain Name (FQDN) or hostname of the Hyper-V host.

**Test / Save:** Test the provided configuration or Save the provided configuration. Clicking Save will also test the credentials.

### Editing a remote Hyper-V hypervisor

If NovaBACKUP is being installed on a machine to manage a remote Hyper-V host, users will need to enter user credentials to access the Hyper-V service. Users will need to add four fields of information. If the Hyper-V host is remote, check "*Connect using different credentials*".

**Display Name:** This is the friendly name for the hypervisor. This can be anything and is designed for ease of use.

**Hostname:** This is the Fully Qualified Domain Name (FQDN) or hostname of the Hyper-V host.

**Username:** The local or domain username with access to the Hyper-V host

**Password:** The password for the user

***Test/Save:*** Test the provided configuration or Save the provided configuration. Clicking Save will also test the credentials.

## Editing a hypervisor

To edit a hypervisor, click "***Add***" after selecting the hypervisor to be edited.

## Removing a hypervisor

To remove a hypervisor, click "***Remove***" after selecting the hypervisor to be edited.

***Note:*** Removing a Hypervisor will remove all protected virtual machines and their backups from the Virtual Dashboard. Removing a virtual machine removes the ability to restore that virtual machine through the Virtual Dashboard

## Adding a virtual machine

After adding a hypervisor, users will be shown a selection of virtual machines available for protection. Check the box next to the virtual machine needing protection in order to add it to the list of available virtual machines.

## Editing a VMware hypervisor

Once a user is in the "***Add***" menu of the Virtual Dashboard, select VMware. Users will then have four options:

***Display Name:*** This is the friendly name for the hypervisor. This can be anything and is designed for ease of use.

***Hostname / IP Address:*** The Hostname or IP address of the VMware ESXi or vCenter application

***Username:*** The username with access to the ESXi or vCenter application.

***Password:*** The password for the user

***Test/Save:*** Test the provided configuration or Save the provided configuration. Clicking Save will also test the credentials.

## Editing a Hyper-V hypervisor

Once a user is in the "***Add***" menu of the Virtual Dashboard, select Hyper-V. Users will then be presented with two options:

### Editing a local Hyper-V hypervisor

If NovaBACKUP is being installed onto a local Hyper-V host, users will not need to enter user credentials to access the Hyper-V service. Users will need to add two fields of information.

**Display Name:** This is the friendly name for the hypervisor. This can be anything and is designed for ease of use.

**Hostname:** This is the Fully Qualified Domain Name (FQDN) or hostname of the Hyper-V host.

**Test/Save:** Test the provided configuration or Save the provided configuration. Clicking Save will also test the credentials.

### Editing a remote Hyper-V hypervisor

If NovaBACKUP is being installed on a machine to manage a remote Hyper-V host, users will need to enter user credentials to access the Hyper-V service. Users will need to add four fields of information. If the Hyper-V host is remote, check "**Connect using different credentials**".

**Display Name:** This is the friendly name for the hypervisor. This can be anything and is designed for ease of use.

**Hostname:** This is the Fully Qualified Domain Name (FQDN) or hostname of the Hyper-V host.

**Username:** The local or domain username with access to the Hyper-V host

**Password:** The password for the user

**Test/Save:** Test the provided configuration or Save the provided configuration. Clicking Save will also test the credentials.

## Backing up virtual machines

After adding a virtual machine to the list of protected virtual machines, users are able to create backup jobs that are able to restore individual files as well as directly back into the hypervisor.

When creating a backup job, files will be stored in a hierarchal folder structure rather than a single file. After selecting a target folder on the user's machine, the Virtual Dashboard will automatically create another folder labeled NovaBACKUP underneath that folder. Users may continue to select the original destination for all future backup jobs.

**Example:** A user selecting C:\Backups\ may continue to select this folder for all future backup jobs. After the first backup job runs, users will see a separate folder: C:\Backups\NovaBACKUP\

## Backing up VMware

VMware backups can be performed from any Windows 7 or Server 2008 R2 machine or greater.

## Changed Block Tracking

Changed Block Tracking (CBT) is a VMware feature that helps perform incremental backups. After clicking on a protected virtual machine, users will see an option for CBT in the bottom right of the virtual machine's individual dashboard. Checking this box will enable CBT or show the current status of CBT on that virtual machine.

Without CBT enabled, users will be unable to create an Incremental or Differential backup.

**Note:** Enabling or disabling CBT may take time, as this is a VMware function change.

## Setting up VMware backups

**Name:** The name of the backup job as it appears in the Virtual Dashboard

**Type:** The type of backup job to configure &ndash; Full, Incremental, or Differential

**Retention:** In either "Generations" (number of versions to keep or count) or "Days old" (number of days to keep available)

**Run as:** Users may choose to run the job as either the current user or as a specified user

**Schedule:** Users may choose to schedule the job in a variety of methods. If no schedule is desired, users may toggle the "Schedule" switch in the top right to turn off the scheduler.

## VMware Retention

VMware backups are able to maintain a retention value in either generations (count) or days for Full or Differential backups. In order to apply retention to an Incremental backup, users will need to target the same folder as their incremental backup with a scheduled or manually run full backup job that includes a retention value.

## Full

A full backup is a backup of the entire virtual machine all at once. These backups can be very large in nature and users should be aware of how much storage space is available on the destination.

## Incremental and Differential initial backups

If a user has not previously run a Full backup of a virtual machine, the initial Incremental or Differential backup job will execute as a full backup. This is intended behavior due to the required dependencies of Incremental or Differential jobs to their respective last full backup.

## Incremental

Incremental backup jobs are backup jobs that base themselves on the last incremental backup job run. This means each incremental job is dependent upon the previous incremental backup in order to restore any particular file.

## Differential

Differential backup jobs are backup jobs that base themselves on the last full backup job run. This means that each differential backup job is independent from each other and only the last full backup and the desired differential backup are required to restore a particular file.

## Backing up Hyper-V

Hyper-V backups can be performed from either the Hyper-V 2012 or Hyper-V 2012 R2 host machine. Unlike VMware backups, NovaBACKUP must be installed on the Hyper-V host where the virtual machine desired to be backed up is located.

### Setting up Hyper-V backups

When creating a new backup job, users will be presented with the following options:

**Name:** The name of the backup job as it appears in the Virtual Dashboard

**Retention:** In either "Generations" (number of versions to keep or count) or "Days old" (number of days to keep available)

**Run as:** Users may choose to run the job as either the current user or as a specified user

**Schedule:** Users may choose to schedule the job in a variety of methods. If no schedule is desired, users may toggle the "Schedule" switch in the top right to turn off the scheduler.

### Hyper-V Retention

Hyper-V backups can currently only be run in a full mode. Retention maintains either a Generation (count) or number of Day's.

## Restoring VMware backups

To restore a VMware backup, browse to the previously configured VMware backup job. Immediately below the "Run Summary" section will be a list of old and new backup job logs. Backup jobs that are still available for restore will be listed with three commands: Mount, Restore and Log. To restore a VMware backup users are given two options:

### Mount (Individual file restore)

Clicking the "Mount" button will mount the virtual machine's virtual hard drives on the local computer as physical drives. Once the drive has been mounted a Windows Explorer will appear to browse the file structure. Additionally, if a drive is already mounted, users will be shown the current drive letter of the mounted image.



Once mounted, the Mount button will switch to Unmount. After a user is finished restoring any requested individual files from the Virtual Machine, clicking Unmount will disconnect that virtual machine's virtual hard drive.

#### **Restore (Restore to hypervisor)**

Restoring an image directly to a hypervisor

**Name:** The name of the backup job within the Virtual Dashboard

**Target VM Name:** The name of the virtual machine at its destination hypervisor.

**Destination Hypervisor:** This is the destination, or target, hypervisor. This will display any currently configured VMware hypervisors. If the desired hypervisor has not already been configured, users may click the blue "+" sign to add a hypervisor at this time.

**Target Datastore:** The target ESXi / vCenter datastore that the user wishes this VM to be replicated to

**VM Folder:** The target ESXi / vCenter datastore that the user wishes to replicate this virtual machine into

## **Restoring Hyper-V backups**

To restore a Hyper-V backup, browse to the previously configured Hyper-V backup job. Immediately below the "Run Summary" section will be a list of old and new backup job logs. Backup jobs that are still available for restore will be listed with three commands: Mount, Restore and Log. To restore a Hyper-V backup users are given three options:

#### **Mount (Individual file restore)**

Clicking the "Mount" button will mount the virtual machine's virtual hard drives on the local computer as physical drives. Once the drive has been mounted a Windows Explorer will appear to browse the file structure. Additionally, if a drive is already mounted, users will be shown the current drive letter of the mounted image.

Once mounted, the Mount button will switch to Unmount. After a user is finished restoring any requested individual files from the Virtual Machine, clicking Unmount will disconnect that virtual machine's virtual hard drive.

#### **Restore (Original Location)**

Restoring to the original location allows a user to place the backed up copy of the virtual machine directly back in place to its original location in the Hyper-V server. This will overwrite any existing Hyper-V machines that might still be in place.

#### **Restore (Alternate Location)**

Restoring to an alternate location allows a user to export a copy of the backed up virtual machine to a new destination in so that it may be moved (example: restore to USB or NAS to manually move to an alternate location.)

## VMware Replication

VMware Replication uses the NovaBACKUP Backup/Copy Engine to copy data from either a single ESXi / vCenter host to itself or from one host to another.

### Changed Block Tracking

Changed Block Tracking (CBT) is a VMware feature that helps perform incremental backups. After clicking on a protected virtual machine, users will see an option for CBT in the bottom right of the virtual machine's individual dashboard. Checking this box will enable CBT or show the current status of CBT on that virtual machine.

Without CBT enabled, replication jobs will be transferred in full each time the job is executed, which could increase replication time significantly.

**Note:** Enabling or disabling CBT may take time, as this is a VMware function change.

### VMware Replication Retention

VMware backups are able to maintain a retention value in either generations (count) or days for Full or Differential backups. In order to apply retention to an Incremental backup, users will need to target the same folder as their incremental backup with a scheduled or manually run full backup job that includes a retention value.

### Setting up VMware replication

After clicking "**Replicate**" users are presented with the following options:

**Name:** The name of the backup job within the Virtual Dashboard

**Target VM Name:** The name of the virtual machine at its destination hypervisor. This will default to whatever the current name is plus the suffix of "**\_rep**"

**Destination Hypervisor:** This is the destination, or target, hypervisor. This will display any currently configured VMware hypervisors. If the desired hypervisor has not already been configured, users may click the blue "+" sign to add a hypervisor at this time.

**Target Datastore:** The target ESXi / vCenter datastore that the user wishes this VM to be replicated to

**VM Folder:** The target ESXi / vCenter datastore that the user wishes to replicate this virtual machine into

**Retention:** The number of previously available versions stored on the target destination ESXi / vCenter. These are stored as snapshots within the ESXi / vCenter.

**Schedule:** Users may choose to schedule the job in a variety of methods. If no schedule is desired, users may toggle the "**Schedule**" switch in the top right to turn off the scheduler.

## Hyper-V Replication

Hyper-V Replication uses the Hyper-V Replica technology through Microsoft's Hyper-V service. The Hyper-V Replica technology is a block-level, asynchronous transfer from one Hyper-V host to another. After an initial full transfer, Hyper-V maintains a regularly occurring block transfer to the alternate destination.

### Requirements

In order to successfully configure Hyper-V replication, users will need to properly configure their Hyper-V hosts. Hyper-V hosts must be Hyper-V 2012 or newer and all Hyper-V hosts are required to be connected to a domain (for authentication purposes). Additionally, the target or destination Hyper-V server needs to be configured as a Hyper-V Replica destination.

### Setting up Hyper-V Replication

After clicking "**Replicate**" users are presented with the following options:

**Name:** The name of the backup job within the Virtual Dashboard

**Replica Server:** This is the destination, or target, hypervisor. This will display any currently configured Hyper-V hypervisors that are not the source Hyper-V. If the desired hypervisor has not already been configured, users may click the blue "r;+" sign to add a hypervisor at this time.

**Retention:** The number of previously available versions stored on the target Hyper-V hypervisor.

**Schedule:** Users may choose a schedule for when the first initial replication takes place. If no schedule is desired, users may toggle the "**Schedule**" switch in the top right to turn off the scheduler.

**Note:** Replication is a single-run job type and only needs to be executed once to initialize the replication. After being configured, the Virtual Dashboard reports on the current health of the virtual machine's replication.

## Glossary

### Backup

Backups in the Virtual Dashboard are different than traditional virtual backups from the NovaBACKUP Backup tab because they are able to restore individual files from them.

### Changed Block Tracking

Changed Block Tracking (CBT) is a VMware feature that helps perform incremental backups. After clicking on a protected virtual machine, users will see an option for CBT in the bottom right of the virtual machine's individual dashboard. Checking the CBT box will enable CBT as well as it displays the current status of CBT on that particular virtual machine..

Without CBT enabled, users will be unable to create an Incremental or Differential backup.

## **Replication**

Replication is the act of copying a virtual machine from one hypervisor to another. There are two types of replication: VMware and Hyper-V Replication.

### **VMware Replication**

VMware Replication uses the VMware's vStorage API for Data Protection (VADP) in order to copy virtual machines from one ESXi host to another. By enabling Changed Block Tracking (CBT), users are able to perform a complete full copy followed by smaller block level changes on a schedule chosen by the user.

### **Hyper-V Replication**

Hyper-V Replication uses the Hyper-V Replica technology through Microsoft's Hyper-V service. The Hyper-V Replica technology is a block-level, asynchronous transfer from one Hyper-V host to another. After an initial full transfer, Hyper-V maintains a regularly occurring block transfer to the alternate destination.

## **Retention**

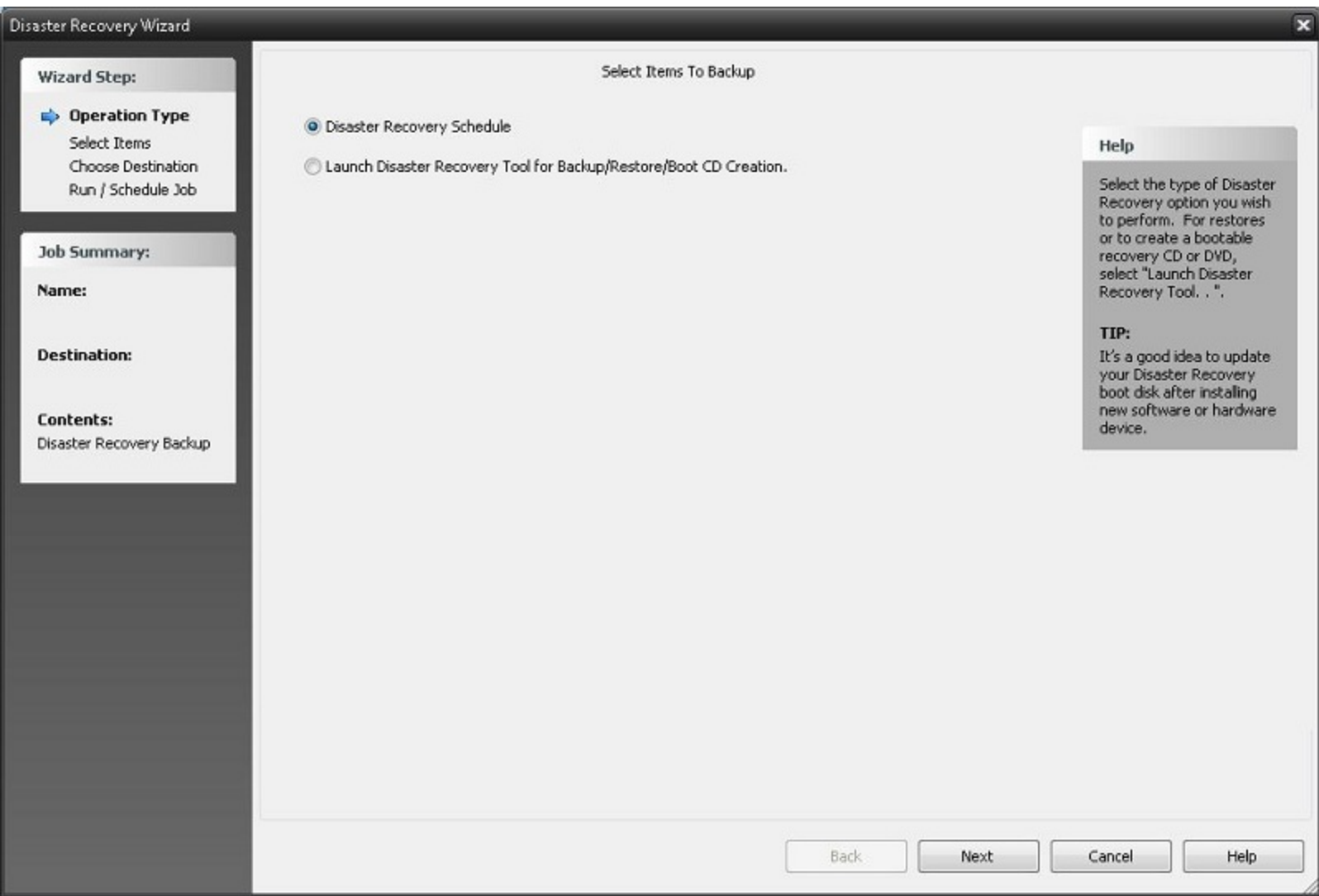
Retention is the act of removing older backups in order to reduce the amount of storage space required. After every backup job is run, retention is automatically performed based on the backup configuration.

## **Run as**

Some domain or workstation configurations require running background applications as a particular user. The ***Run as*** section of each protection type allows for administrators to provide these credentials.

## **Disaster Recovery Job Type**

Select the type of disaster recovery job you want to run



**Disaster Recovery Schedule:** Setup a disaster recovery job to be scheduled to run at a later time

**Launch Disaster Recovery Tool:** Launches the disaster recovery application.

**Introduction**

**Welcome****Backup****Restore****Boot Disc****Tools****Close**

## Welcome to DR Image Backup and Restore

DR Image Backup and Restore provides a powerful disaster recovery solution based on disk image backup. Simply select the whole disk or disk volume you wish to backup. This creates a disk image backup which is more detailed than file level backup, providing a true disaster recovery solution. Then for recovery, you can restore the drive volume (by letter) or entire disk or even restore to a new disk in case of a hardware failure.

### Backup -

Backups can be stored on local or network locations, with popular backup type options available.

### Restore -

Restore from local or network locations, with optional output conversions available.

### Boot Disc -

The Boot Media feature will create a bootable CD/DVD or flash disk to be used in case your normal startup disk fails. Then by starting your computer using the boot media, you can run restore your backups using DRBackup.

[View Help](#)

Disaster Recovery Backup and Restore provides a powerful disaster recovery solution based on disk image backup. Simply select the whole disk or disk volume you wish to backup. This creates a disk image backup which is more detailed than file level backup, providing a true disaster recovery solution. Then for recovery, you can restore the drive volume (by letter) or entire disk or even restore to a new disk in case of a hardware failure.

Backups can be stored on local or network locations, with popular backup options available. Restores may also select from backups stored on local or network locations, with optional output conversions available.

To complete the disaster recovery solution, use the Boot Disc feature to create a bootable CD/DVD or flash disk. This provides the ability to start your computer if you are unable to boot normally due to a disk or program failure.

You will need about 5 GB of free disk space to complete this process.

## Selection

### Image Backup - Selection

**Image Backup - Selection**

DRBackup

Welcome

Backup

Restore

Boot Disc

Tools

Close

Disk or partition to backup:

- ☒ Disk 0, Model: ST31000528AS, Basic Disk, Size: 953 GB
  - ☒ Partition (C:) Total: 953 GB Free: 674 GB

Backup type:

- Full
- Differential
- Incremental

Image type:

- Used sectors
- Forensic
- Forensic direct

Backup to:

X:\BackupImage-20120305.ndf

Browse

☒ Compress the backup

☒ Verify after backup

[Encryption Settings](#) (Off)

< Back

Next >

Cancel

Help

Use this screen to select disk volumes or entire disks for backup to a local disk or network location.

#### Disk or partition to backup:

Use the checkboxes to select the items you wish to backup.

#### Backup to:

Use the browse button to choose a location and filename to store your backup. You can navigate to the location desired or type a path into the edit box to obtain the same result. Additionally, any configured network devices may be selected as the destination path for users running Windows 7 or later. [Network device definitions](#) may added from the [Device Tab](#) in the main backup application.

#### **Previous backup:**

This is only shown if you have selected differential or incremental backup types. It is used to select the base backup for reference when creating the new backup.

#### **Backup options:**

##### **Use compression:**

Set this check box to use compression when backing up. This results in a smaller output file but may increase the time required to complete the backup.

##### **Verify after backup**

The files that are backed up will be verified to make sure that they were written correctly. Selecting this option will increase backup time. This setting is selected by default.

##### **Encryption settings**

Click 'Encryption settings' to set backup encryption on or off. Encryption provides enhanced security by storing the backup data in a secure format. You may choose the encryption type as None (off), or one of encryption types AES 128, AES 192 or AES 256 (On). A secret key must be also be entered, which is similar to creating a password.

**IMPORTANT:** You will be prompted to enter the secret key to restore an encrypted backup. The restore will not be permitted unless the correct secret key is entered.

##### **Backup type:**

Select from this list to create a backup of these possible types.

**Full** - A backup which does not rely on other backups to complete a single restorable backup.

**Differential** - A backup of the differences from the previously completed full backup which you select.

**Incremental** - A backup of the differences from the previously completed differential or incremental backup which you select.

##### **Image type:**

Select from this list to create a backup containing these possible image types.

**Used Sector** - Only save disk space that is being used.

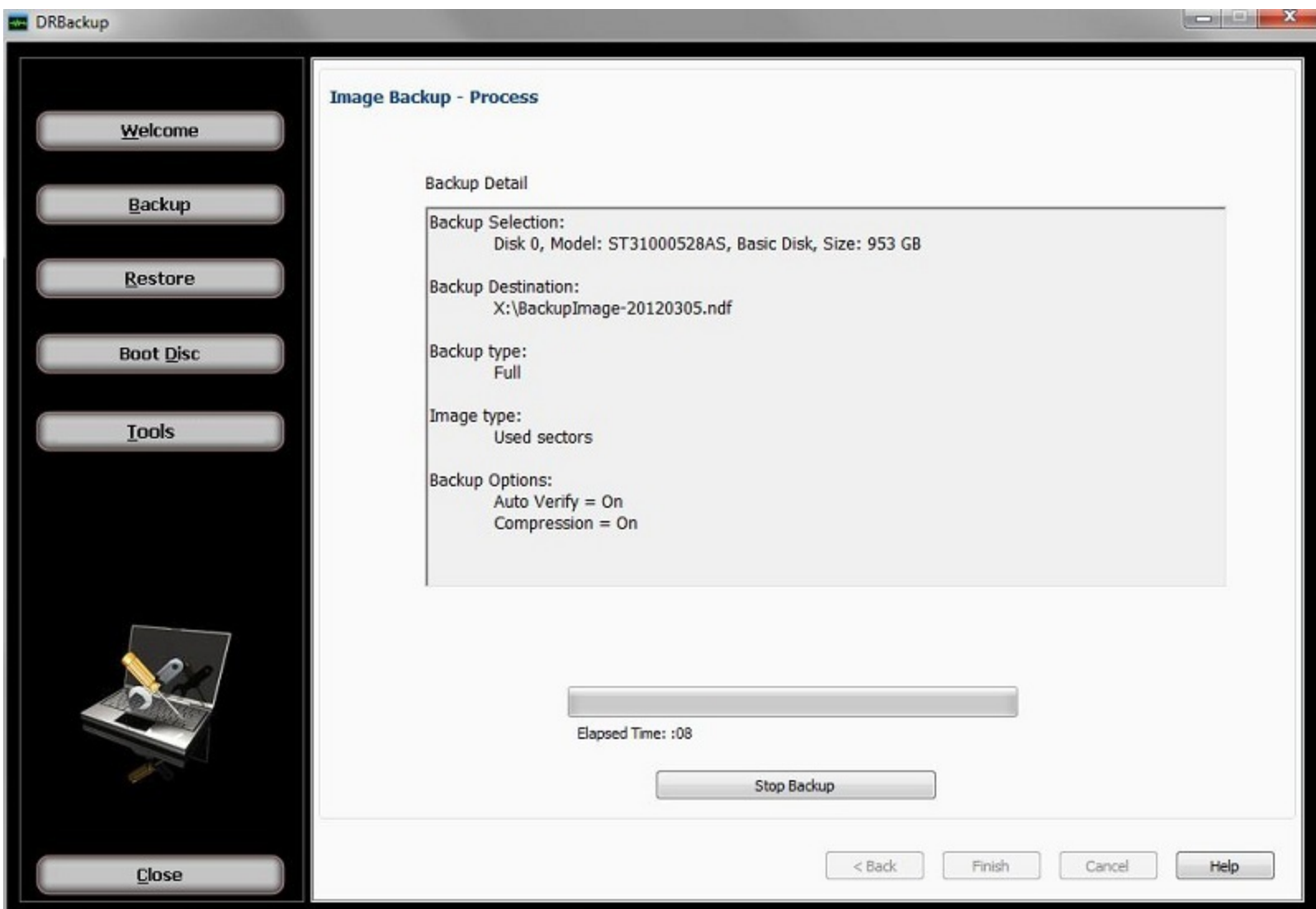
**Forensic** - Save all disk space even if it is not being used.

**Forensic Direct** - A forensic image type suited to disks using encryption.



## Process

### Image Backup - Process



This final step is used to start the backup job based on selections and options set in the previous screen.

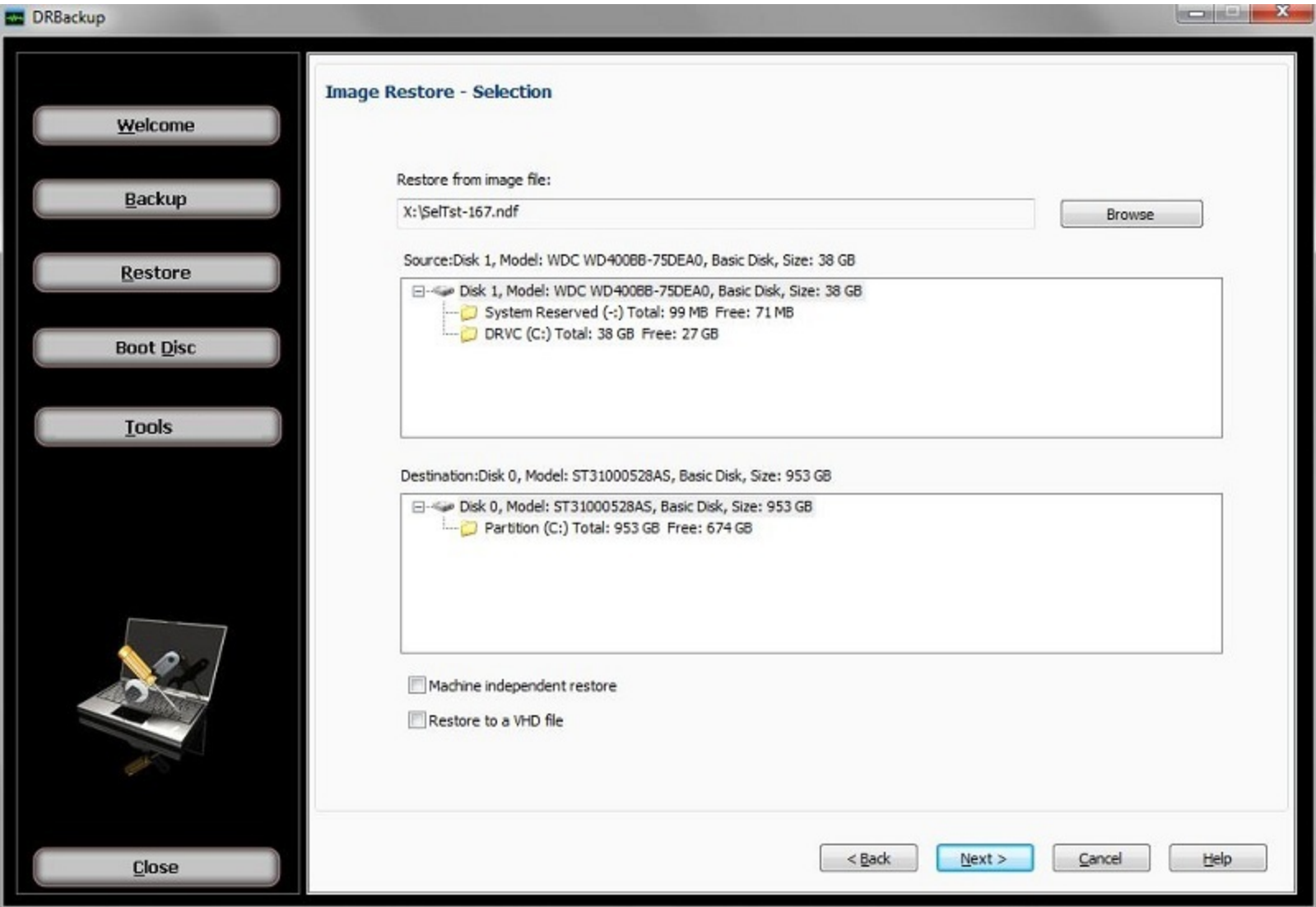
The summary of all backup selections and options are displayed to confirm your choices. You can change any option by clicking the back button. Once changes are complete, click the next button to return to this screen.

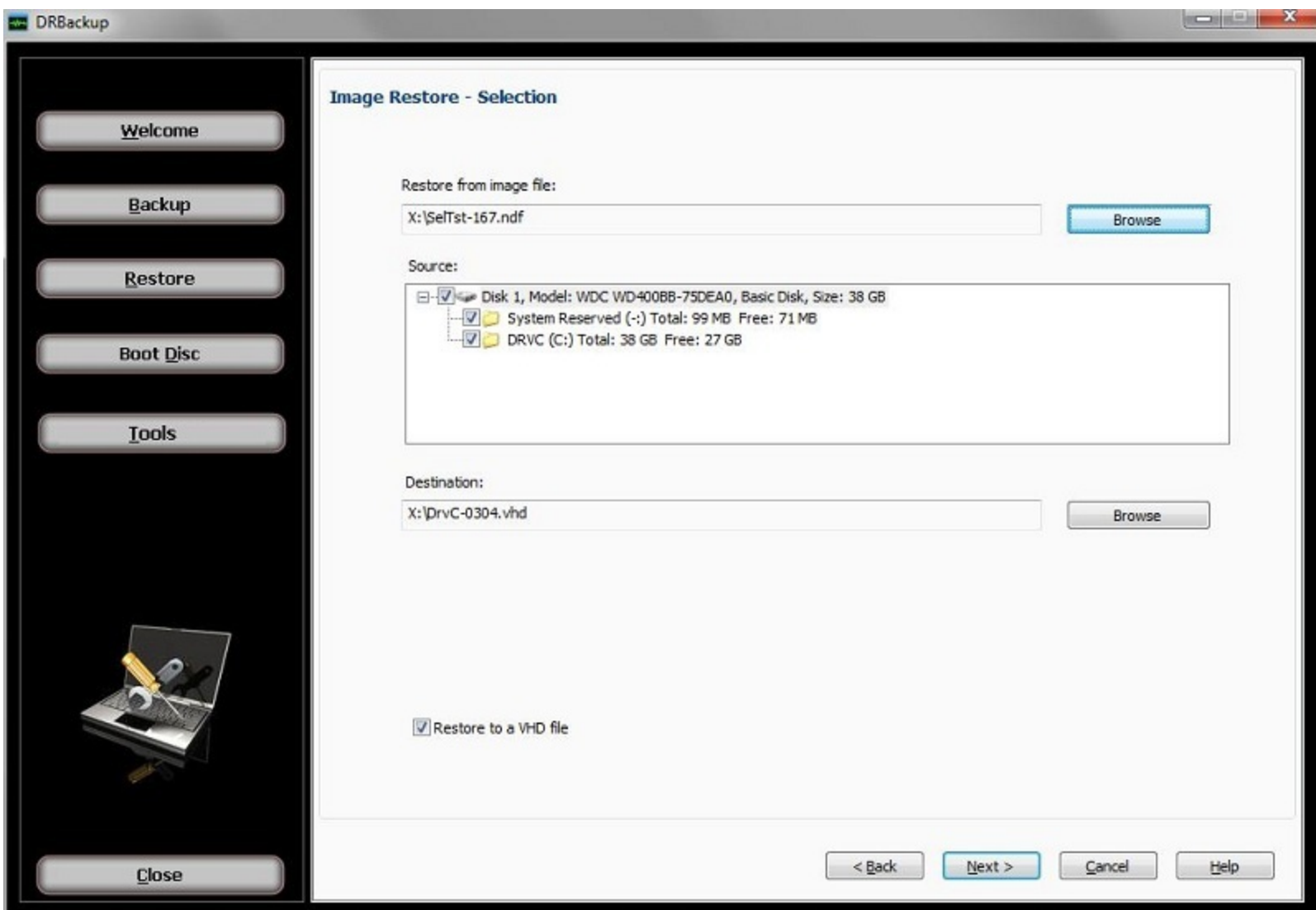
Click the finish button to start the backup. A progress bar appears during the process with the option to stop the backup if you wish to cancel.

When the process completes, a final status message is shown to indicate success or errors. More information about the job can be found using the main backup application 'Logs' menu item.

# Selection

## Image Restore - Selection





Use this screen to select disk volumes or entire disks from backup files stored on a local disk or network location.

Normal data recovery requires no special options, only source and destination choices. First choose the backup file, and from that backup select the item you wish to recover. Then in the destination list of existing disks, select the item to restore from the selected backup item.

#### **Restore from image file:**

This is the first choice available before any other options are shown. Use the browse button to locate the desired backup. After confirming the selected backup file, the source list will show the backup content.

#### **Destination: (drive list)**

This list shows existing drives and volumes available to restore from the selected backup item. This list will not appear when selecting the VHD output option.

#### **Destination: (file name)**

This is used to specify the output file when selecting VHD output option. Use the browse button to select a location and file name for the output file.

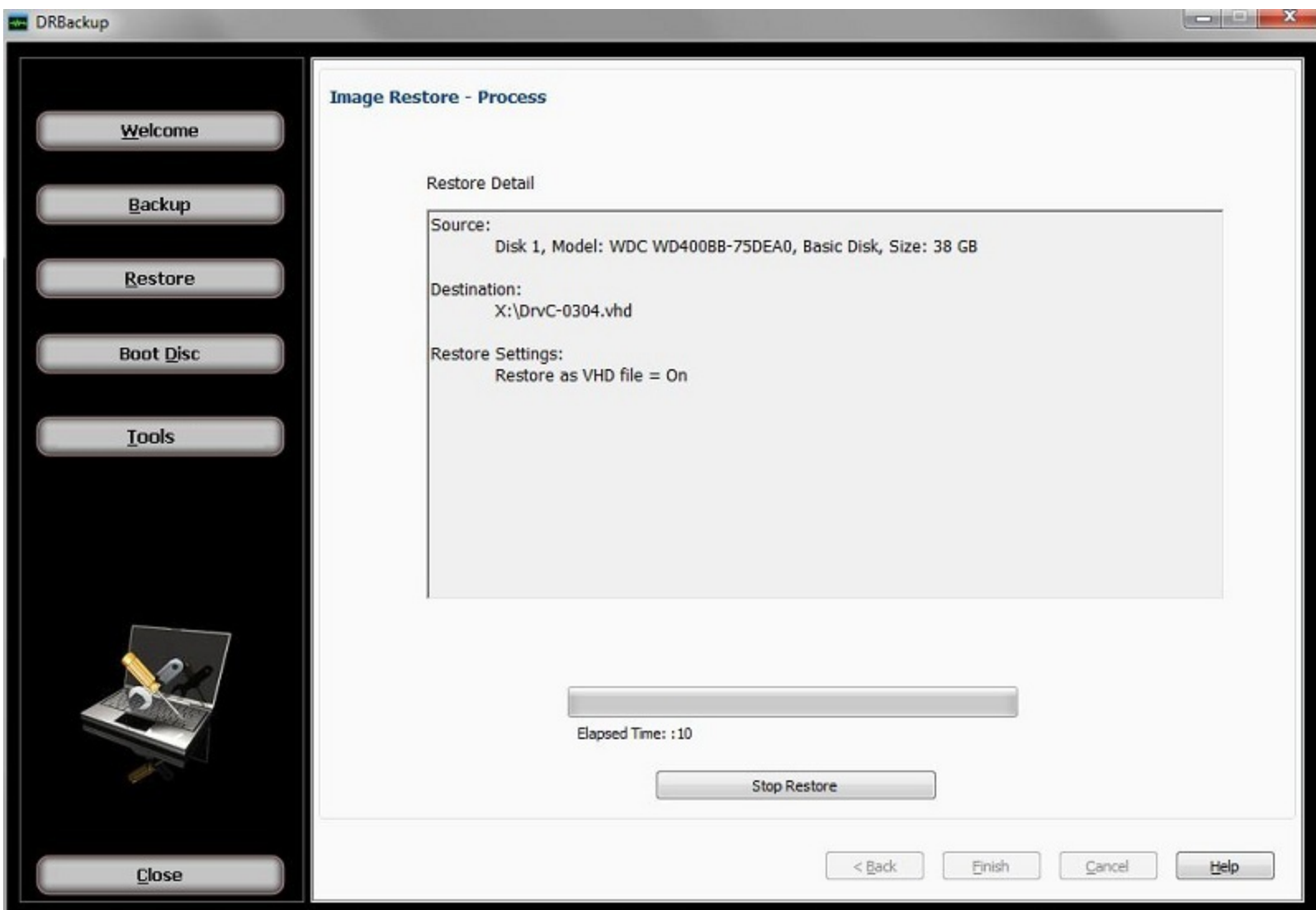
#### **Restore options:**

**Restore to a VHD file** - Using the selections in the backup image, create an output file instead of restoring to another disk. The output file is created using the specified name and location and converted to a Microsoft mountable VHD format. Note that only a used sector backup can be used to create a VHD output file which will mount successfully.

**Machine independent restore** - Use this feature to restore an image containing the system partition onto another computer with different hardware. Note that only a volume (or partition) may be selected from the backup to perform this type of restore, and the destination must not be the current active partition.

## **Process**

### **Image Restore - Process**



This final step is used to start the restore job based on your selections and options set in the previous screen.

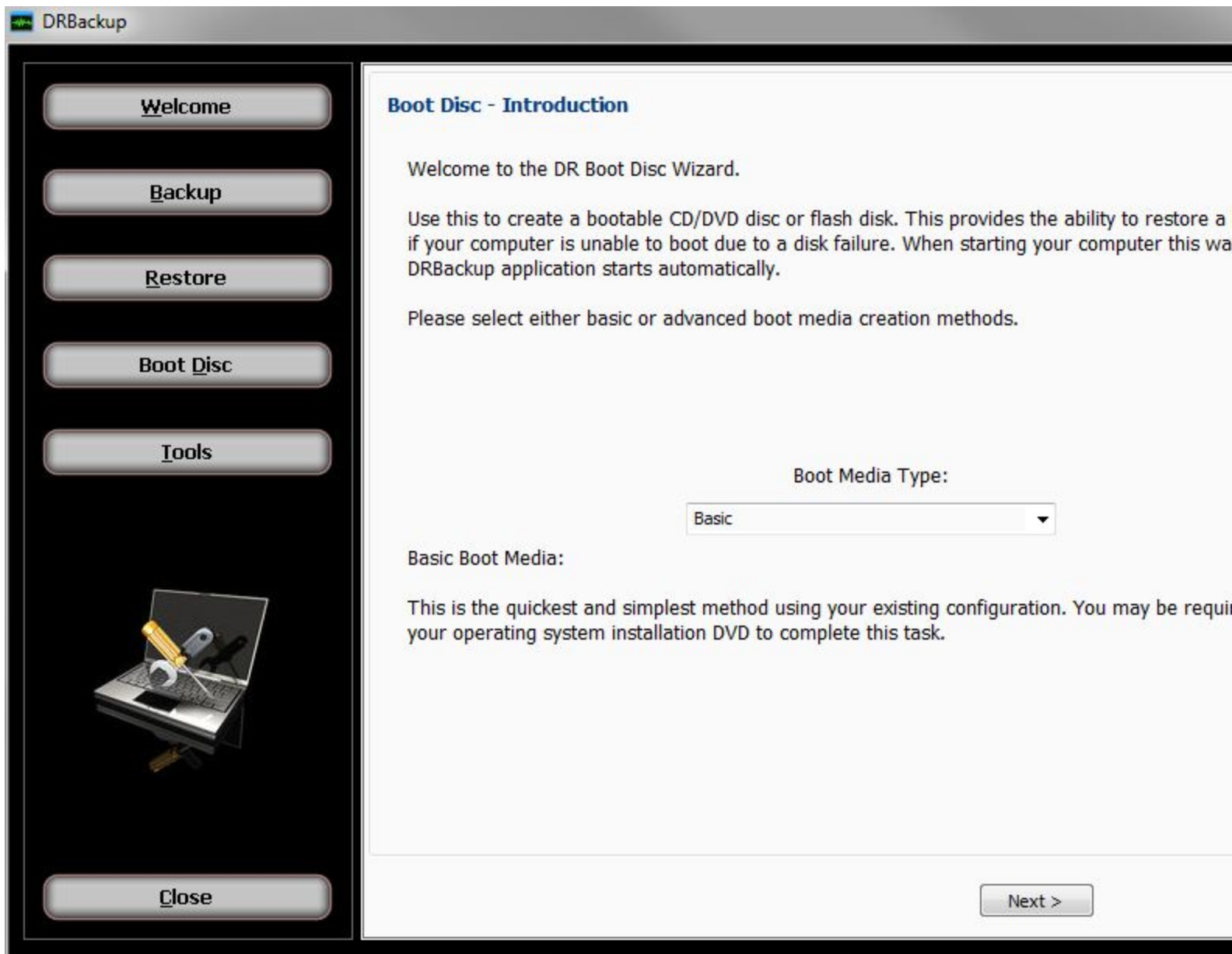
The summary of all restore selection and options are displayed to confirm your choices. You can change any option by clicking the back button. Once changes are complete, click the next button to return to this screen.

Click the finish button to start the restore. A progress bar appears during the process with the option to stop the restore if you wish to cancel.

When the process completes, a final status message is shown to indicate success or errors. More information about the job can be found using the main backup application 'Logs' menu item.

## Boot Disc - Introduction and Selection

### Boot Disc - Introduction and boot disc creation type selection

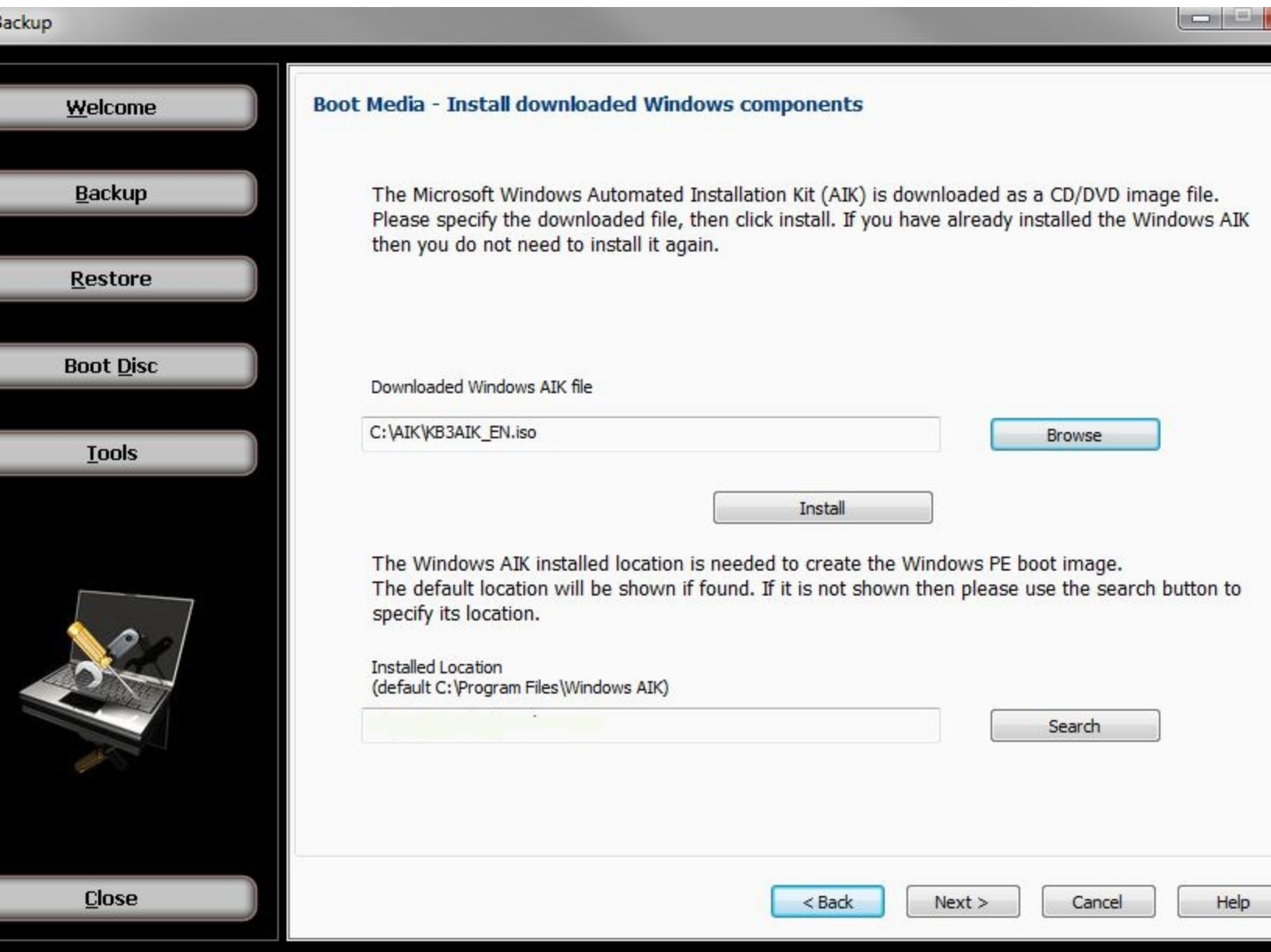


The Boot Disc Introduction screen is also used to select the type of boot disc method you prefer. In most cases the basic type is preferred since there are no additional components required to download.

However for those users running configurations that require special handling such as special device drivers included in the boot disc, the advanced type may be needed to create a boot disc capable of starting the system successfully.

## Install Windows components for Windows XP

### Boot Disc - Install Windows components (advanced mode only)



The screenshot shows a software window titled 'Backup' with a sidebar on the left containing buttons: 'Welcome', 'Backup', 'Restore', 'Boot Disc', 'Tools', and 'Close'. The 'Boot Disc' button is selected. The main area is titled 'Boot Media - Install downloaded Windows components'. It contains instructions about the Windows Automated Installation Kit (AIK) and fields for specifying the downloaded file and its installation location. The 'Downloaded Windows AIK file' field contains 'C:\AIK\KB3AIK\_EN.iso' and has a 'Browse' button next to it. Below this is an 'Install' button. The 'Installed Location' field contains '(default C:\Program Files\Windows AIK)' and has a 'Search' button next to it. At the bottom right are navigation buttons: '< Back', 'Next >', 'Cancel', and 'Help'.

**Welcome**

**Backup**

**Restore**

**Boot Disc**

**Tools**

**Close**

**Boot Media - Install downloaded Windows components**

The Microsoft Windows Automated Installation Kit (AIK) is downloaded as a CD/DVD image file. Please specify the downloaded file, then click install. If you have already installed the Windows AIK then you do not need to install it again.

Downloaded Windows AIK file

C:\AIK\KB3AIK\_EN.iso

The Windows AIK installed location is needed to create the Windows PE boot image. The default location will be shown if found. If it is not shown then please use the search button to specify its location.

Installed Location  
(default C:\Program Files\Windows AIK)

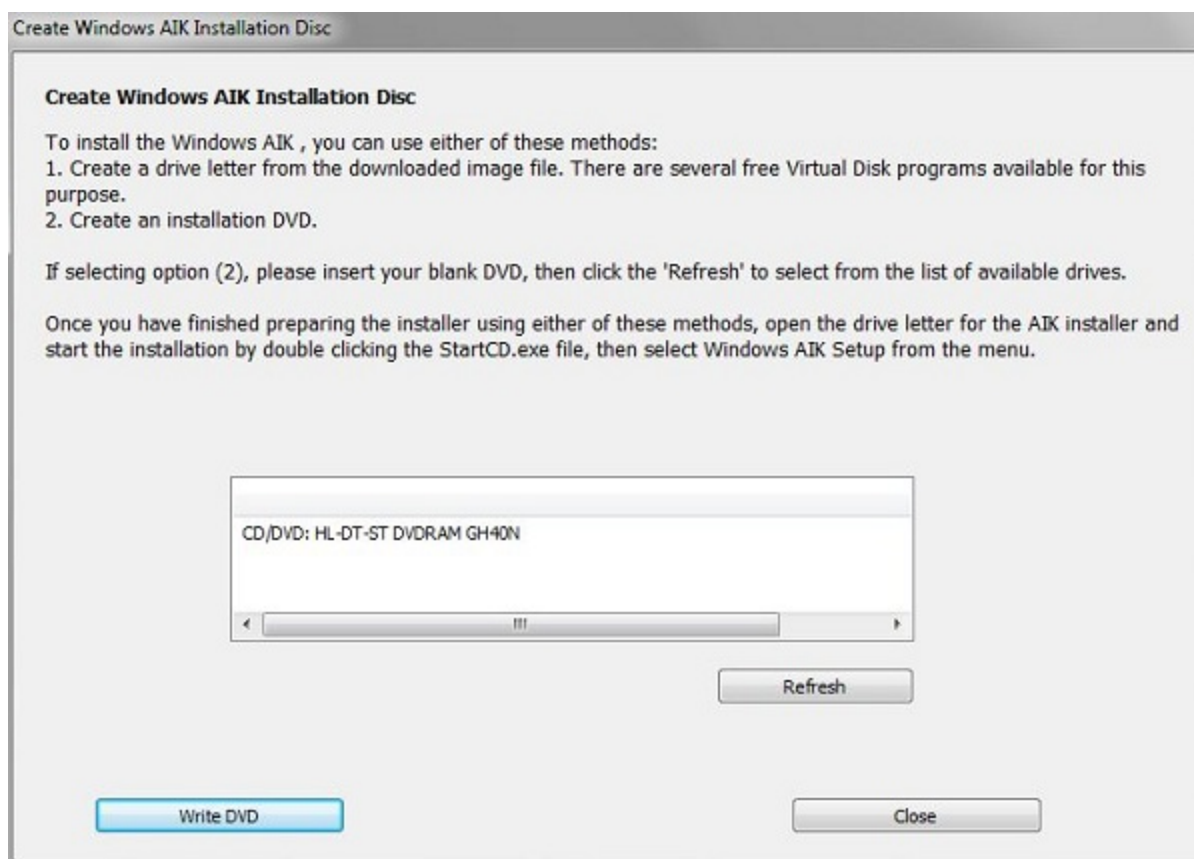
#### Downloaded Windows AIK file:

The Microsoft Windows Automated Installation Kit (AIK) is downloaded as a CD/DVD image file. Use the browse button to locate the file which was downloaded in the previous step. The location and name of the file is needed so that the Windows AIK installation DVD can be created.

#### Install button:

With the downloaded Windows AIK file location showing above, click the install button. If you have already installed the Windows AIK then you do not need to install it again.

When clicking the install button, another screen appears:



#### **Create Windows AIK Installation Disc:**

To install the Windows AIK program, you can use either of these methods:

1. Create a drive letter from the downloaded Windows AIK installation file. There are several free Virtual Disk programs available for this purpose.
2. Create an installation DVD.

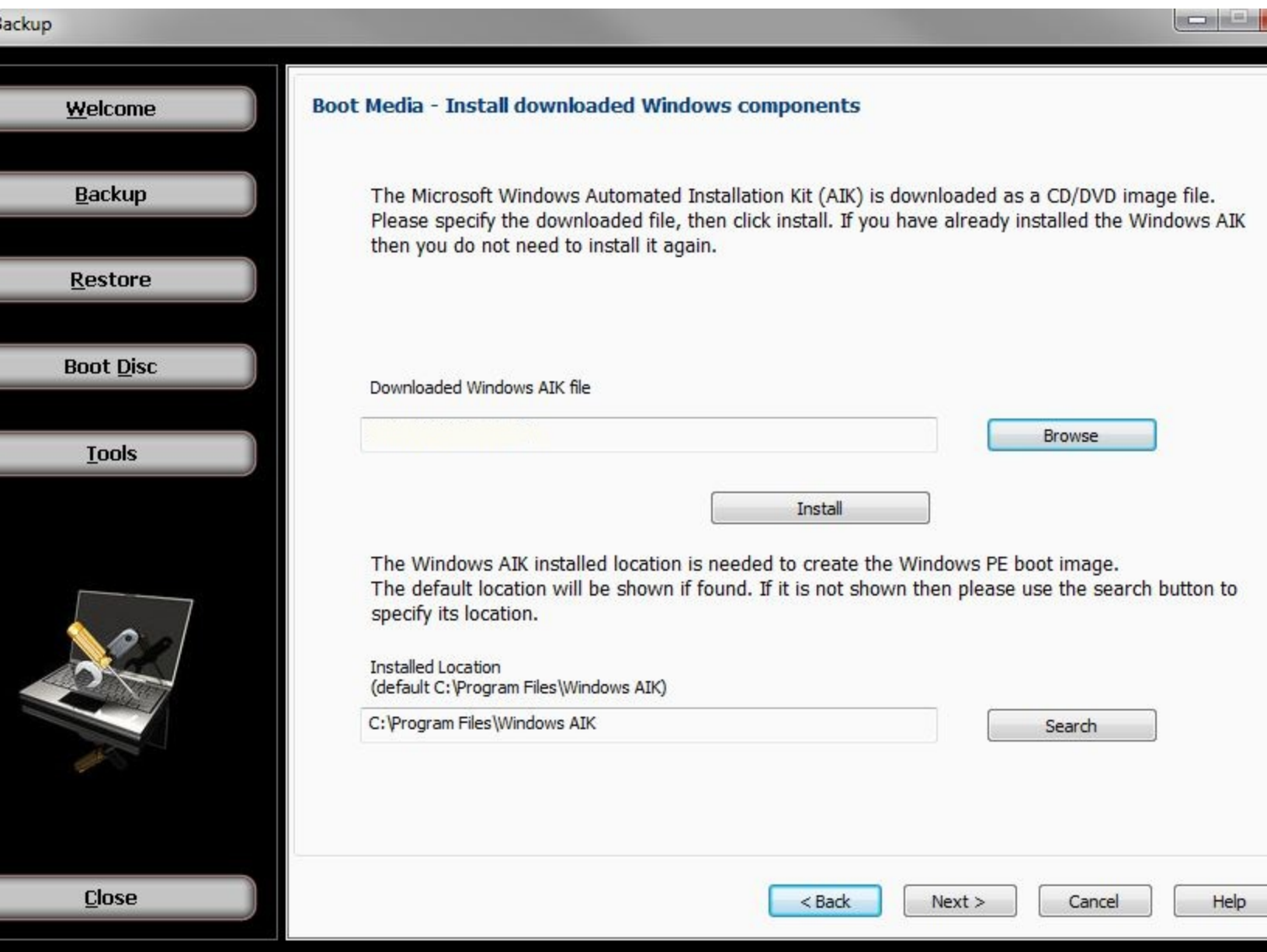
If selecting option (2), please insert your blank DVD into a writable DVD drive, then click the Refresh button to select the listed drive to use to create the installation DVD. Once you have made that selection, click the Write DVD button and wait for the process to complete.

Once you have finished preparing the installer using either of these methods, open the drive letter for the AIK installer and start the installation by double clicking the StartCD.exe file, then select Windows AIK Setup from the menu.

#### **Installed Windows AIK location:**



Once the Windows AIK has been installed, its location is needed to run the steps required to create boot image file based on the Windows PE operating system. The default location will be shown if found. If it is not shown then please use the search button to specify the folder where it has been installed.



The screenshot shows a software interface with a dark sidebar on the left and a main content area on the right. The sidebar contains five buttons: 'Welcome', 'Backup', 'Restore', 'Boot Disc', and 'Tools'. Below these is an image of a laptop with a screwdriver and a USB drive. At the bottom of the sidebar is a 'Close' button. The main content area has a title bar that says 'Backup'. Below the title bar, the main area is titled 'Boot Media - Install downloaded Windows components'. It contains two text blocks. The first block explains that the Microsoft Windows Automated Installation Kit (AIK) is downloaded as a CD/DVD image file and provides instructions on how to specify the file. Below this is a text input field labeled 'Downloaded Windows AIK file' and a 'Browse' button. The second block explains that the Windows AIK installed location is needed to create the Windows PE boot image and provides instructions on how to specify the location. Below this is a text input field labeled 'Installed Location (default C:\Program Files\Windows AIK)' and a 'Search' button. At the bottom of the main area are four buttons: '< Back', 'Next >', 'Cancel', and 'Help'.

**Backup**

**Welcome**

**Backup**

**Restore**

**Boot Disc**

**Tools**

**Close**

**Boot Media - Install downloaded Windows components**

The Microsoft Windows Automated Installation Kit (AIK) is downloaded as a CD/DVD image file. Please specify the downloaded file, then click install. If you have already installed the Windows AIK then you do not need to install it again.

Downloaded Windows AIK file

**Browse**

**Install**

The Windows AIK installed location is needed to create the Windows PE boot image. The default location will be shown if found. If it is not shown then please use the search button to specify its location.

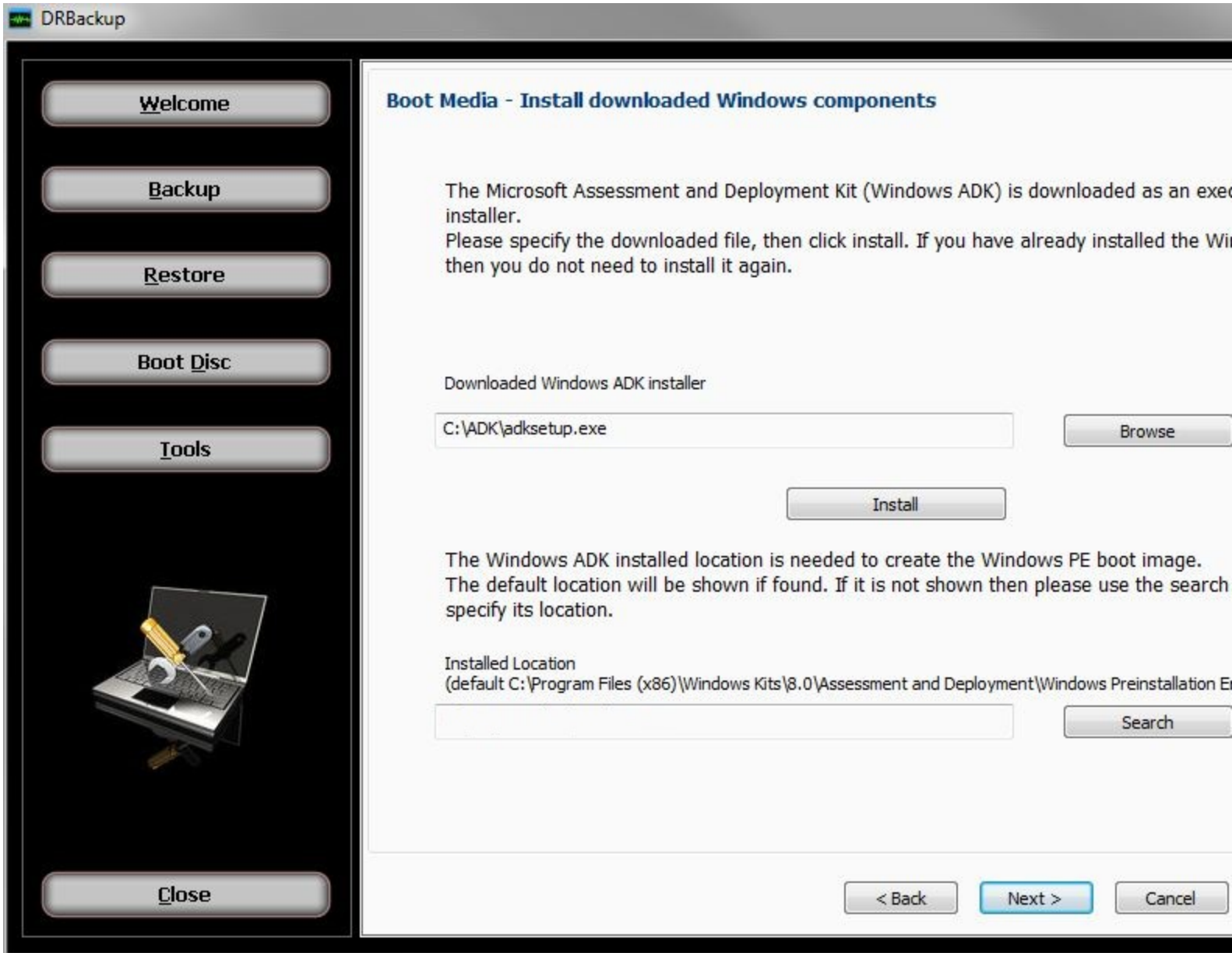
Installed Location  
(default C:\Program Files\Windows AIK)

**Search**

**< Back** **Next >** **Cancel** **Help**

## Install Windows components for Windows Vista or later

Boot Disc - Install Windows components (advanced mode only)



#### Downloaded Windows ADK file:

The Microsoft Windows Assessment and Deployment Kit (ADK) is downloaded as an executable file. Use the browse button to locate the file which was downloaded in the previous step. The location and name of the file is needed so that the Windows ADK installation can be launched.

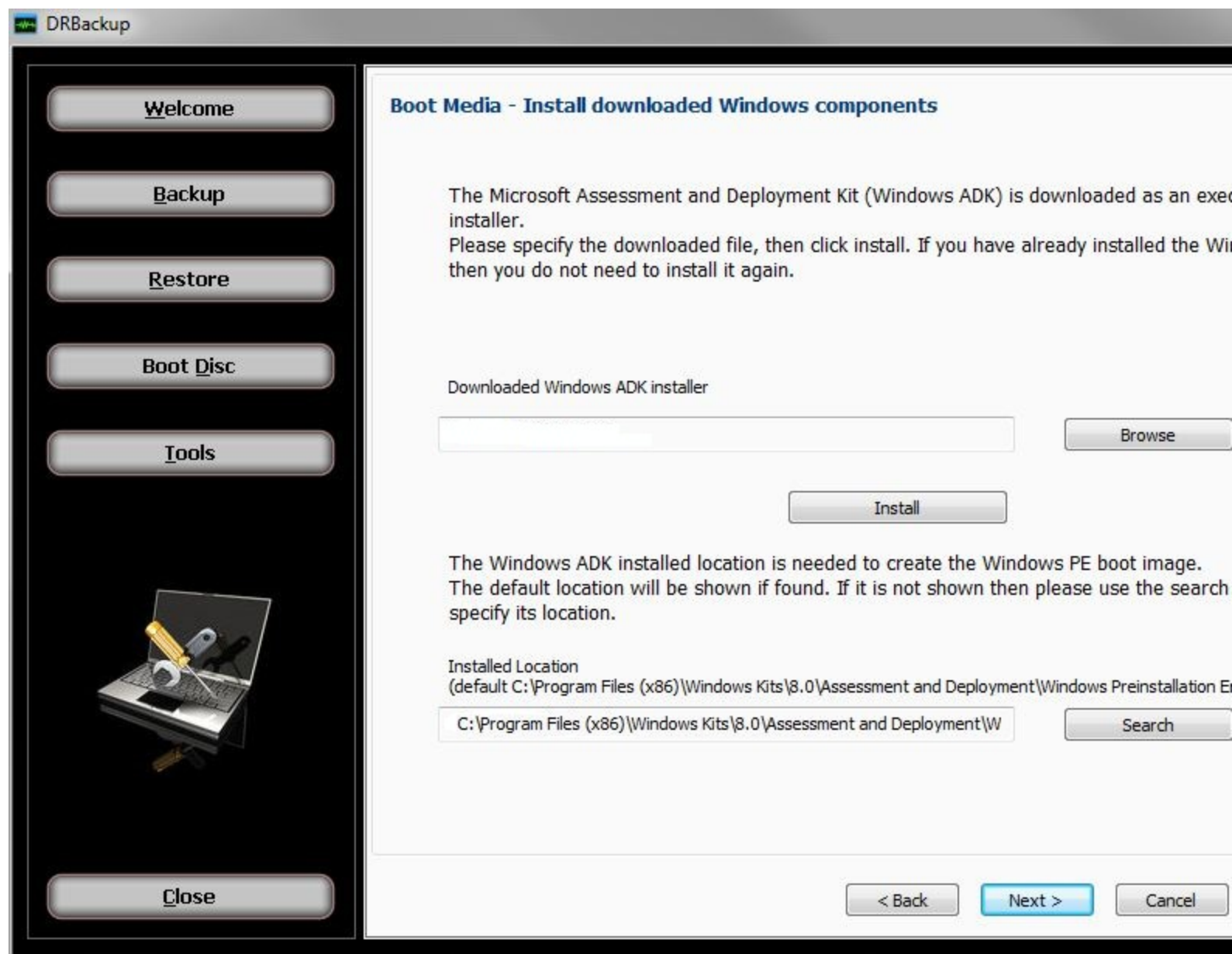
#### Install button:

With the downloaded Windows ADK setup file location showing above, click the install button. If you have already installed the Windows ADK then you do not need to install it again.

When clicking the install button the ADK installer is started and pre-configured to only select the component you need, which is the Windows Preinstallation Environment (Windows PE).

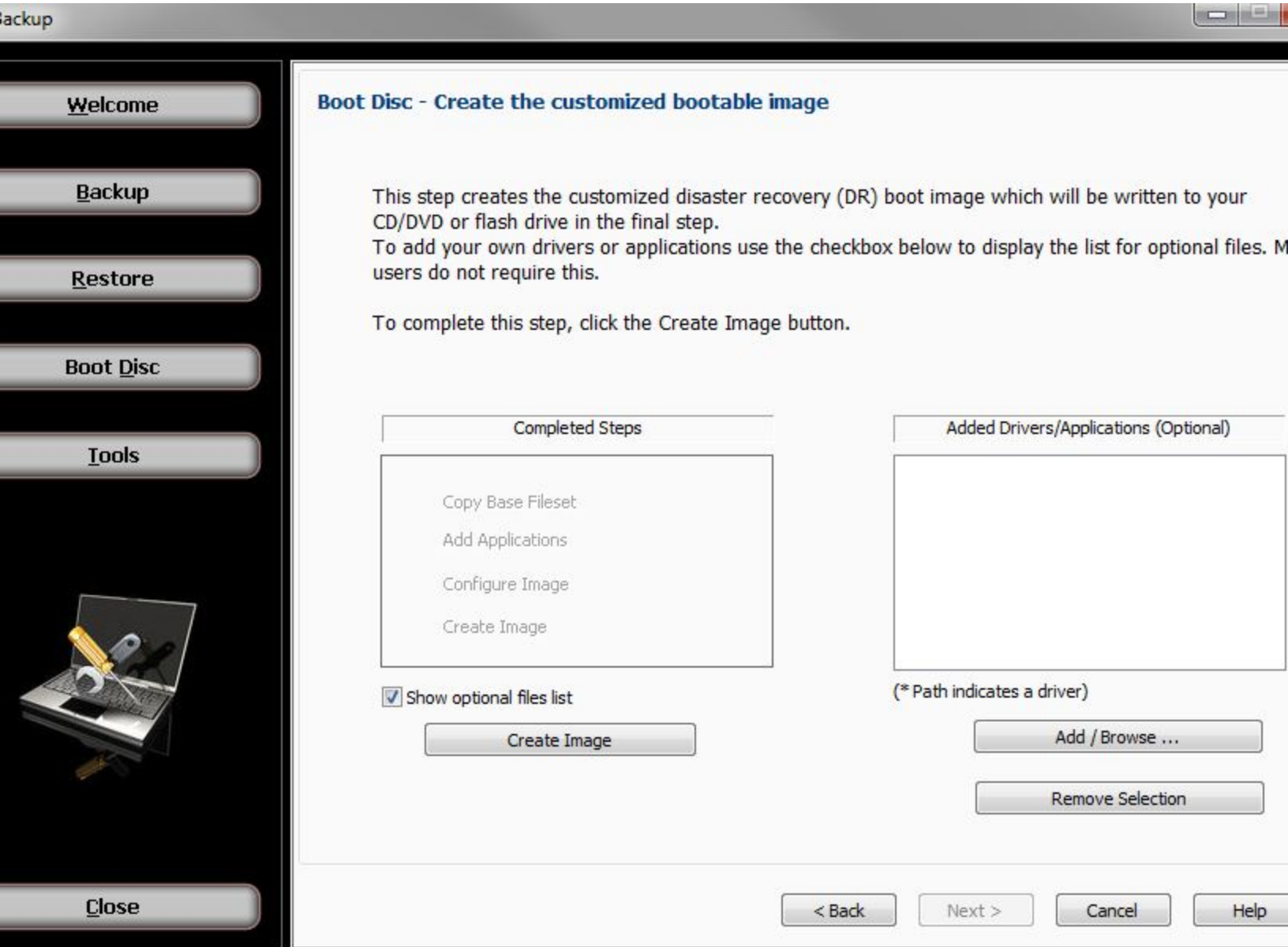
#### Installed location:

Once the Windows ADK has been installed, its location is needed to run the steps required to create boot image file based on the Windows PE operating system. The default location will be shown if found. If it is not shown then please use the search button to specify the folder where it has been installed.



## Create Boot Image

**Boot Disc - Create the customized bootable image**



This step creates the customized disaster recovery boot image which will be written to your CD/DVD or flash drive in the final step. To add your own drivers or applications use the optional files checkbox to show that list. Most users do not require this.

**Show optional files list ( Advanced Mode )**



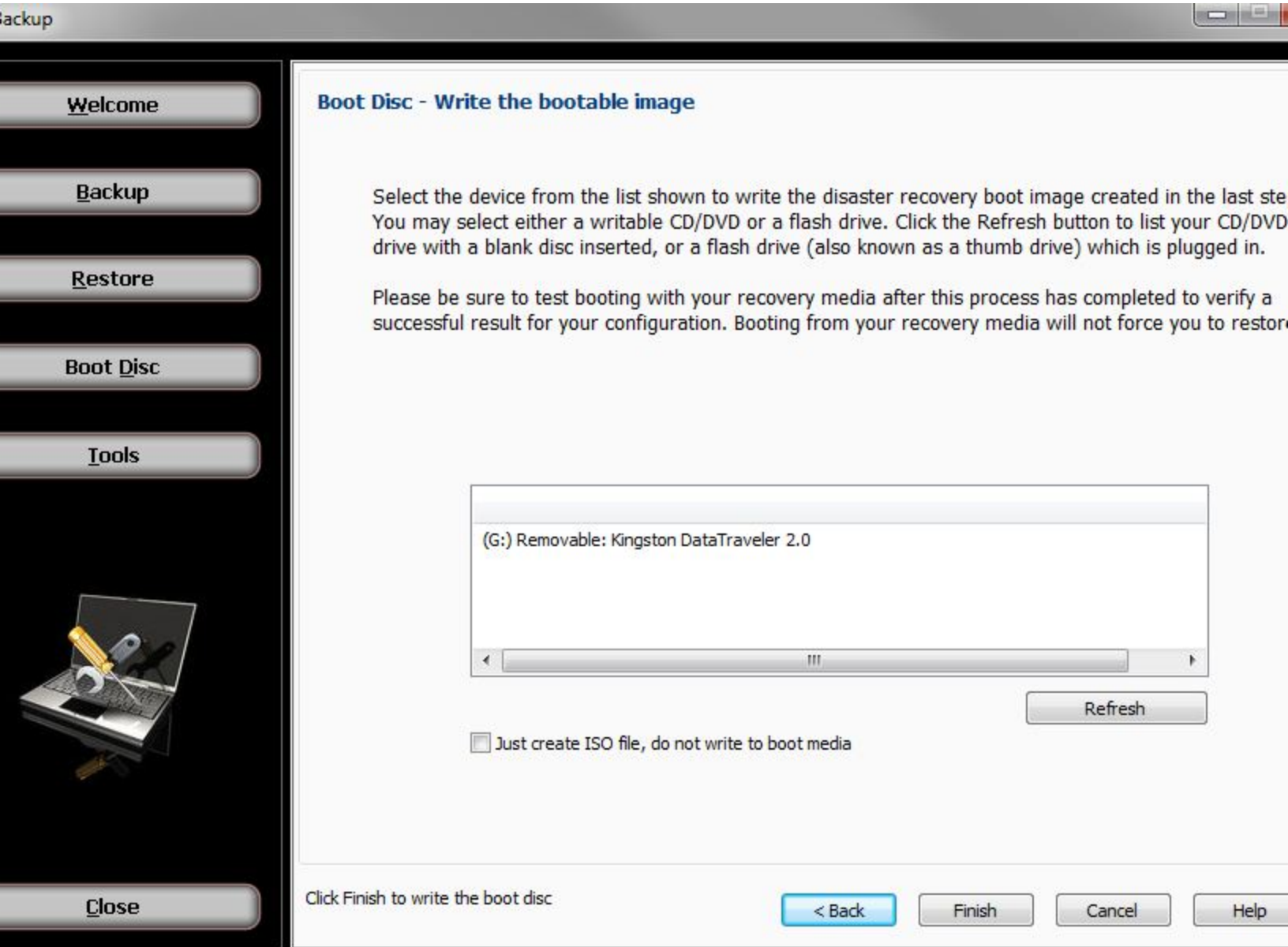
When this checkbox is set, this displays the list used to specify optional drivers or applications you can add to your boot image . Click the Add / Browse button to select the folder containing the files you wish to add. Be sure to select which type you are adding, driver or application. In the Boot Image, drivers are integrated into the Windows PE operating system and applications are simply placed under the Program Files folder. To delete any item that has been added to the list, just select that item in the list and click the Remove button.

To complete this step, click the Create Image button. This will begin the various processes needed to create the Boot Image with messages showing its progress. When the process has completed, click the next button to proceed to the last step.

## Write Boot Disc

### Boot Disc - Write the bootable image





Select the device from the list shown to write the disaster recovery boot image created in the last step. You may select either a writable CD/DVD or a flash drive. Click the Refresh button to list your CD/DVD drive with a blank disc inserted, or a flash drive (also known as a thumb drive) which is plugged in. Note that not all computers are capable of booting from a flash drive.

Click the Finish button when you are ready to write the bootable image to the selected device and wait for the process to complete.

If you do not wish to write the boot media but only create the ISO file, the checkbox provides that option. If checked, you will also see the path and filename where the file will be available after clicking the finish button.

It is recommended to test booting from the selected boot device to be sure you can successfully start your computer using the boot disc or flash drive .Once the boot process completes you should see the Disaster Recovery application started. You do not have to run an actual disaster recovery operation when you have started your computer this way.

## **Tools**

### **Tools**

The Tools button will display a screen which provides a list from which the user may select a variety of functions:

#### **Mount backup image volume to a drive letter**

This provides the ability to access files in a backup image without having to run a restore operation. By specifying the backup image, the user may select from any volume listed in the backup image, then select any available listed drive letter to associate with that volume. Then after clicking the 'Mount' button, files will be available by accessing the selected drive letter the same way files are normally accessed.

#### **Mount ISO file to a drive letter**

This provides the ability to access files in an ISO file without having to burn that file to a CD or DVD. By specifying the ISO file image, the user only needs to then select any available listed drive letter to associate with that ISO file. Then after clicking the 'Mount' button, files will be available by accessing the selected drive letter the same way files are normally accessed.

#### **Unmount image from a drive letter**

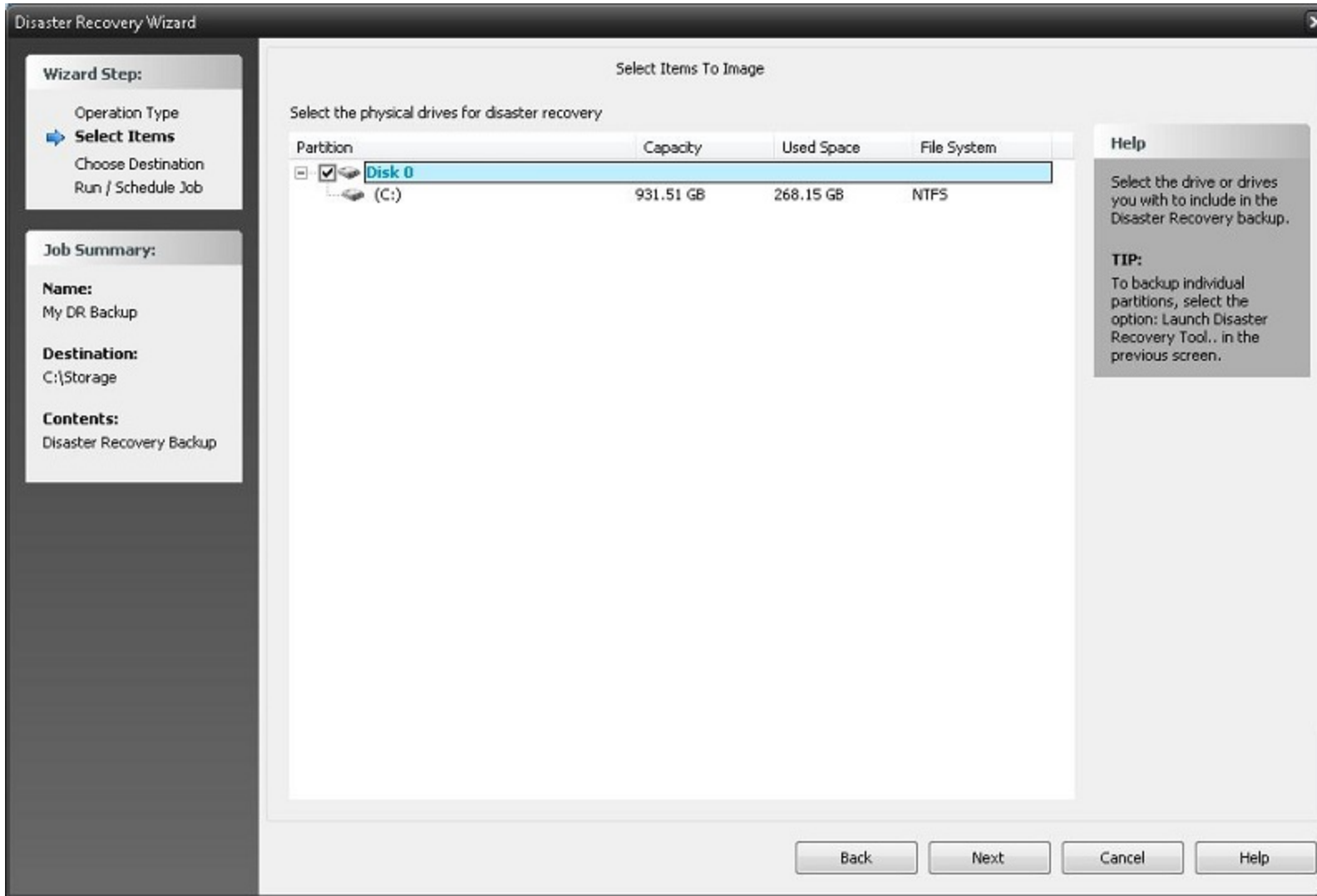
Any drive letter that exists from a mount operation may be released and made available again using the unmount function. All that is required is to specify the drive letter desired, then clicking the 'Unmount' button.

#### **Convert backup image to a VHD**

A VHD (virtual hard disk) file is normally associated with the Microsoft Hyper-V server. During restore operations, the user has the option to create VHD file output instead of performing a restore to disk operation. This tool makes the same result possible without requiring the steps normally used for restore. After selecting the source backup image and the drive desired for conversion in the backup, the user then specifies the desired output filename and location. Then after clicking the "Convert" button, the process to create the output file begins with progress displayed.

## **Select Items for Disaster Recovery**

From here, select the disk you wish to perform an image disaster recovery backup from.



You can only select entire drives when scheduling a Disaster Recovery image backup. If you would rather backup a single partition instead, you must launch the Disaster Recovery Tool in the previous screen

## Disaster Recovery Destination

From this screen, you will select the Name and destination of the Disaster Recovery job.



**Disaster Recovery Wizard**

**Wizard Step:**

- Operation Type
- Select Items
- Choose Destination**
- Run / Schedule Job

**Job Summary:**

**Name:**  
My DR Backup

**Destination:**  
C:\Storage

**Contents:**  
Disaster Recovery Backup

**Destination & Name**

Backup Name  
My DR Backup

Backup Destination  
C:\Storage Backup to...

☒ Differential backup using specified base image

Base Image File  
C:\Storage\BackupImage-20111215ha.ndf Browse

☒ Compress the backup

☐ Verify after backup

[Encryption Settings](#) (Off)

**Help**

Enter the name for this Disaster Recovery backup job and choose the destination device or path you wish to use.

**Note:**  
Only CD/DVD, network, local or removable hard drives can be used for Disaster Recovery backups. In addition, Disaster Recovery backups can be large, so be sure there is adequate free space on the device you select.

Back Next Cancel Help

**Backup Name:** Select a descriptive name for this Disaster Recovery job

**Backup Destination:** Select the backup destination and path you want to use for this Disaster Recovery backup.

**Differential backup using specified base image:** Select this option to create a differential backup instead of a full backup. A differential backup means that the backup will contain only the differences from the full backup specified, which is called the base backup.

**Base Image File:** Use the browse button to locate and select the base image backup file which is required to create a differential backup.

**Backup options:**

**Use compression:**

Set this check box to use compression when backing up. This results in a smaller output file but may increase the time required to complete the backup.

### **Verify after backup**

The files that are backed up will be verified to make sure that they were written correctly. Selecting this option will increase backup time. This setting is selected by default.

### **Encryption settings**

Click 'Encryption settings' to set backup encryption on or off. Encryption provides enhanced security by storing the backup data in a secure format. You may choose the encryption type as None (off), or one of encryption types AES 128, AES 192 or AES 256 (On). A secret key must be also be entered, which is similar to creating a password.

**IMPORTANT:** You will be prompted to enter the secret key to restore an encrypted backup. The restore will not be permitted unless the correct secret key is entered.

## **Completing the Disaster Recovery Job**

This is the final necessary screen when creating a backup set using the Wizard.

Disaster Recovery Wizard

**Wizard Step:**

- Operation Type
- Select Items
- Choose Destination
- Run / Schedule Job**

**Job Summary:**

**Name:**  
My DR Backup

**Destination:**  
C:\Storage

**Contents:**  
Disaster Recovery Backup

**Completing The Backup**

Type of Schedule: Weekly

Job Name: C:\Work\DR Weekly Job.nbk

When running this job, login using this account:

☒ Run as logged in user

☐ Run as specific user

Domain Name:

Run As User Name:

Password:

Scheduling Information

First Run...

Date: 3/ 2/2012

Time: 9:12:01 AM

Repeat every... 1 week(s)

Note: You must enter a valid user account in order to run this job. If the account is not valid when the job is run, the operation will fail.

**Help**

Choose to run your Disaster Recovery backup job now or schedule for later.

**TIP:**  
Be sure to include your Windows domain or system login credentials for scheduled jobs, and review the "Job Summary" window to confirm that you've configured everything correctly.

## Type of Schedule

This drop-down list allows you to select whether you want the backup job to run immediately, once, by the minute, hourly, daily, weekly, or monthly.

**Run Now:** Run the job every so many minutes/seconds. Under "Scheduling Information", select the appropriate date and time you want the job to run

**Minute:** Run the job based on a minute/second increment starting on a specific date/time. Under "Scheduling Information", select the appropriate date and time the job is to start and the number of minutes and seconds between each run.

**Hourly:** Run the job based on an hourly increment starting on a specific date/time. Under "Scheduling Information", select the appropriate date and time the job is to start and the number of hours you want the job to repeat.

**Daily:** Run the job based on an daily increment starting on a specific date/time. Under "Scheduling Information", select the appropriate date and time the job is to start and the number of days you want the job to repeat. You can also select specific days to run or not run the job.

**Weekly:** Run the job based on an weekly increment starting on a specific date/time. Under "Scheduling Information", select the appropriate date and time the job is to start and the number of weeks you want the job to repeat.

**Monthly:** Run the job based on an monthly increment starting on a specific date/time. Under "Scheduling Information", select the appropriate date and time the job is to start, and the day of the month and number of months you want the job to repeat.

### Job Name

This allows you to select the job that you would like to run. Click on the "Browse..." button next to the text box to see a list of all saved backup and copy job scripts.

### Run Job As . .

#### Run as logged in user:

Run the job using the Windows login credentials in effect at that time.

#### Run as specific user:

In order for the job to run, you must enter valid windows account details.

**Domain Name:** The domain name you are logging into.

**Run as User Name:** The user name you want the job to run as.

**Password:** The password for the account you want the job to run as.



**Note:** The account information entered here is usually account you use to login to windows. However, you may need to use a different account when backing up network/shared drives.



**Important:** You must click the "Check Credentials" button to validate the account you have entered before proceeding forward.

## Backup Retention Overview

The backup retention feature provides the ability to create jobs to control which backups should be kept. This is useful in cases where too many backups have accumulated, storage space is running too low or you wish to keep future backups within a specified range or condition.

Backup retention jobs also check for dependencies to ensure that no backup gets deleted if another backup depends on it in order to be restored as expected. For example an incremental backup will not be deleted if an older related incremental backup remains. Also if a backup was split out to multiple files, that backup sequence will maintain its integrity by not allowing any member of that sequence to be deleted as long as others remain.

A backup retention job may be run on demand or scheduled to run automatically. To access this feature, click the schedule menu item, then click the "Backup Retention" button.

Settings contained in the basic and advanced tabs are explained in separate topics, while those common to the main screen are explained here.

**Configure Backup Retention**

Job Name  
 C:\Users\your-name\Documents\NovaBACKUP\Scripts\Utility\My Backup Retention.nbk

Basic Advanced

Keep backups using this setting:  
 Age and Count

Backup type to process:  
 Normal and Disaster Recovery Backups

Maximum backup age:  
 1 Months

Minimum valid backup count:  
 10

☒ Maximum warnings allowed for a valid backup:  
 0 Warnings

☒ Maximum errors allowed for a valid backup:  
 0 Errors

Run Now New Open Save... Cancel

### Job Name

This field displays the current backup retention job script and location. If you wish to schedule a backup retention job, you will need to specify the script as it would be displayed here.

### Run Now Button

Click this button to run the backup retention job using the current settings. This will also save the settings to the job script as shown in the job name field.

### New Button

Click this button to open a dialog to specify a name for a new backup retention job. The new job script will have all default settings, which may then be edited and saved to the same name or to a different name.

### Open Button

Click this button to open a dialog to select an existing backup retention job. This will load the job settings and set it as the current backup retention job script.

### Save... Button


Click this button to open a dialog to save the settings to the current backup retention job script. You can save to the current job script name or save to a different name if preferred.

**Cancel Button**

Click this button to close the backup retention screen without saving any changes.

**Backup Retention Basic Tab**

Configure Backup Retention



Job Name

C:\Users\your-name\Documents\NovaBACKUP\Scripts\Utility\My Backup Retention.nbk

Basic

Advanced

Keep backups using this setting:

Age and Count

Backup type to process:

Normal and Disaster Recovery Backups

Maximum backup age:

1

Months

Minimum valid backup count:

10

☐ Maximum warnings allowed for a valid backup:

0

Warnings

☐ Maximum errors allowed for a valid backup:

0

Errors

Run Now

New

Open

Save...

Cancel

**Keep backups using this setting:**

**Age**

Keep backups for a specified minimum amount of time.

**Count**

Keep a specified minimum number of backups.

**Age and Count**

Keep backups for a specified minimum amount of time after the minimum required count is reached.

**Backup type to process:**

**Normal Backup**

The standard backup type which is based on file selection, also known simply as file backup.

### **Disaster Recovery Backup**

The Disaster Recovery backup type, also known as image backup.

### **Normal and Disaster Recovery Backups**

Both the Normal and Disaster Recovery backups are processed. This is the same process as each type of job were run separately with all settings applied to each type of backup separately.

### **Minimum backup age:**

This setting specifies the age when keeping backups based on a minimum age.

### **Minimum valid backup count:**

This setting specifies the count when keeping backups based on a minimum count.

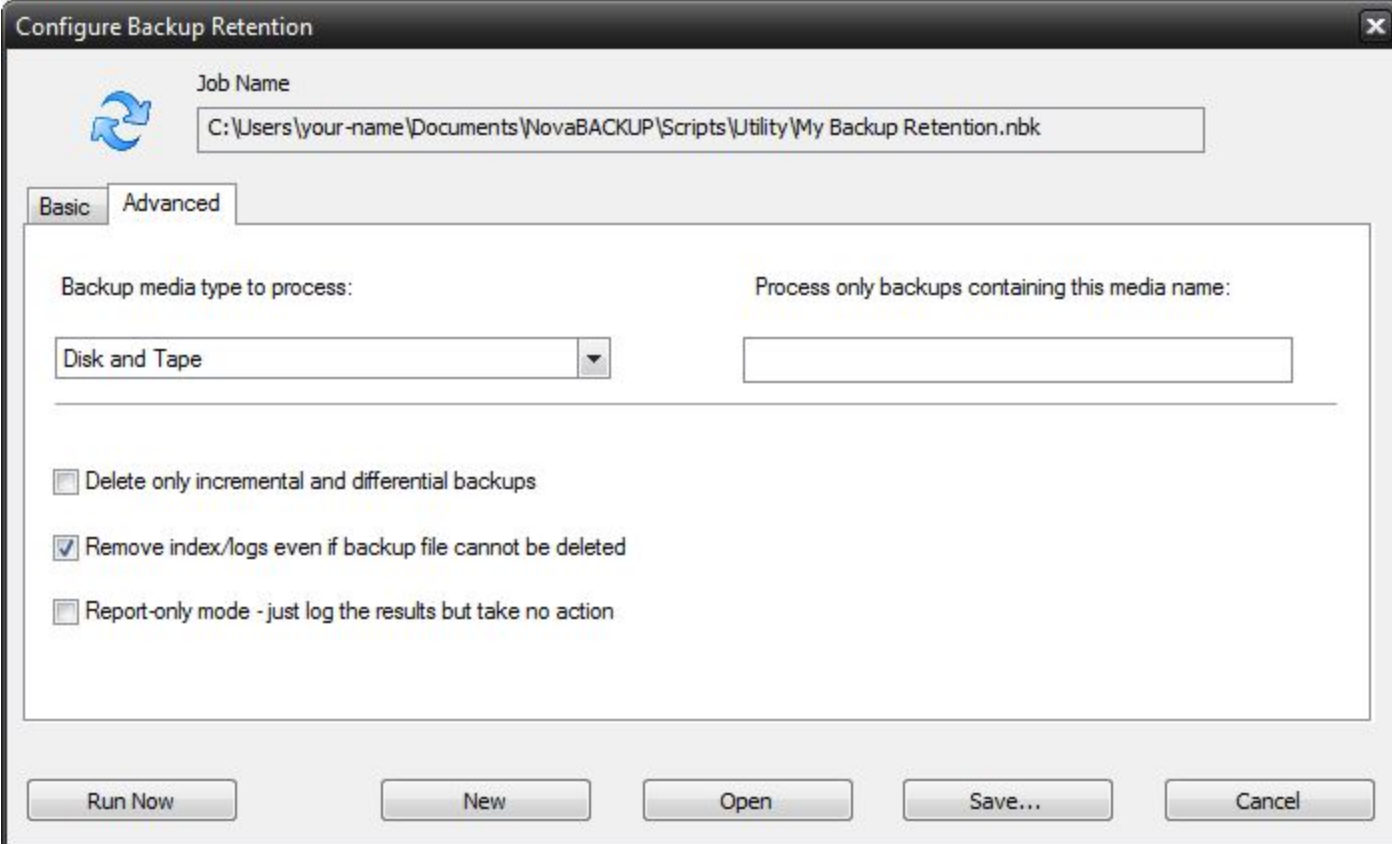
### **Maximum warnings allowed for a valid backup:**

If this is checked, a backup will be counted as valid only if it has the set number of warnings or less.

### **Maximum errors allowed for a valid backup:**

If this is checked, a backup will be counted as valid only if it has the set number of errors or less.

## Backup Retention Advanced Tab



The screenshot shows the 'Configure Backup Retention' dialog box with the 'Advanced' tab selected. The 'Job Name' field contains the path 'C:\Users\your-name\Documents\NovaBACKUP\Scripts\Utility\My Backup Retention.nbk'. The 'Backup media type to process' dropdown is set to 'Disk and Tape'. The 'Process only backups containing this media name' field is empty. Three checkboxes are present: 'Delete only incremental and differential backups' (unchecked), 'Remove index/logs even if backup file cannot be deleted' (checked), and 'Report-only mode - just log the results but take no action' (unchecked). At the bottom are buttons for 'Run Now', 'New', 'Open', 'Save...', and 'Cancel'.

Configure Backup Retention

Job Name  
C:\Users\your-name\Documents\NovaBACKUP\Scripts\Utility\My Backup Retention.nbk

Basic Advanced

Backup media type to process: Disk and Tape

Process only backups containing this media name:

☐ Delete only incremental and differential backups

☒ Remove index/logs even if backup file cannot be deleted

☐ Report-only mode - just log the results but take no action

Run Now New Open Save... Cancel

### Backup media type to process:

#### Disk

Process only backups that have been saved to disk or network.

#### Tape

Process only backups that have been saved to tape.

#### Disk and Tape

Process backups that have been saved to disk, network or tape.

### Process only backups containing this media name:

For normal backup types, limit the backup retention process to media containing the name specified. For disaster recovery backup types, limit the backup retention process to backups with filenames containing the name specified. Just leave this setting blank to process backups of any name.

### Delete only incremental and differential backups

If this is checked, only incremental and differential backups are allowed to be deleted. This will avoid the removal of any full or snapshot backup types.



### **Remove index/logs even if backup file cannot be deleted**

If this is checked, related content gets removed only if the backup was deleted successfully. Related content includes indexes used to list the backup and its log entries as well as actual log files. Note that this setting does not apply to tape backup, because only disk or network backups can be deleted.

### **Report only mode: just log the results but take no action**

If this is checked, only the results of a retention job is logged, with no changes to the state of any backups. This is similar to a print preview without actually printing.

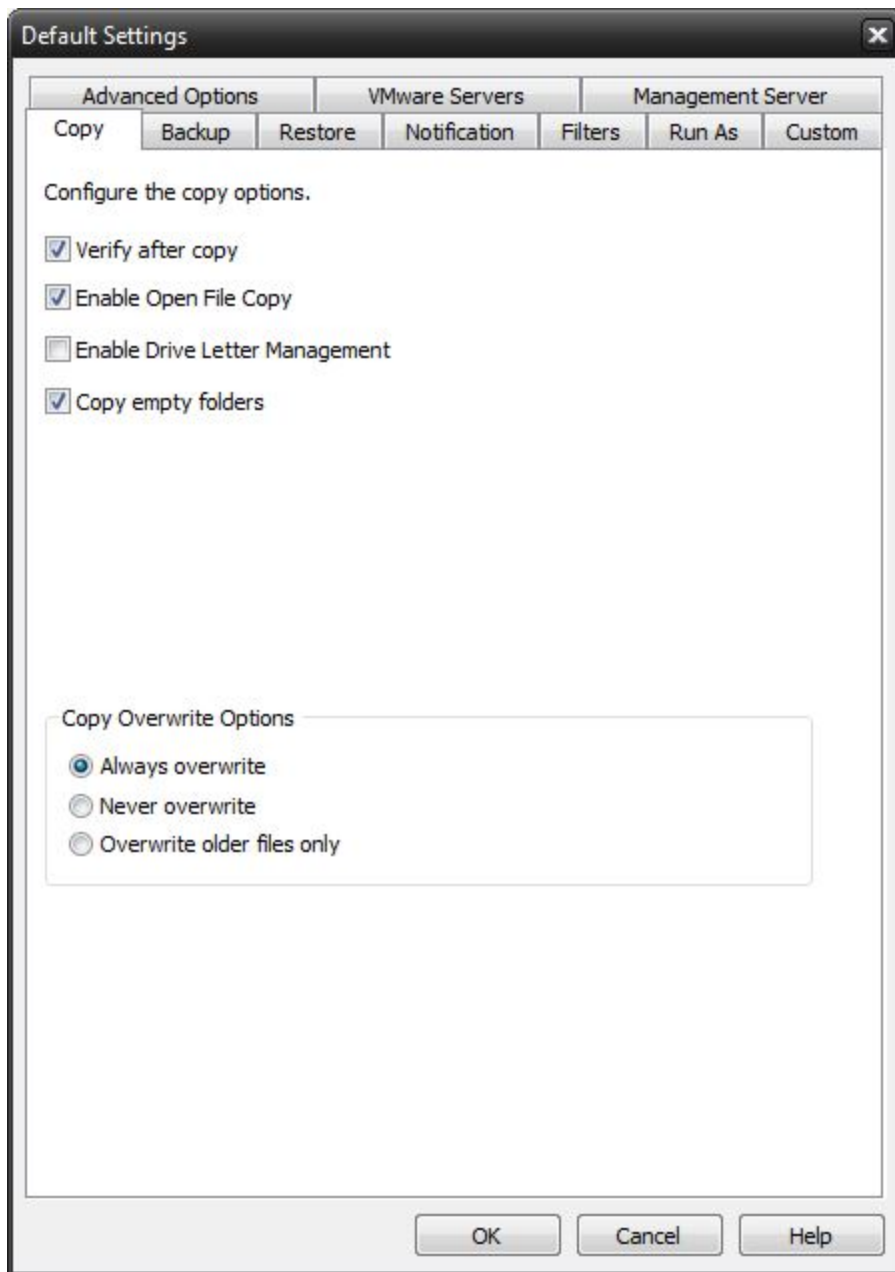
## **Program Settings**

To access the default settings for all tasks, select "Default Settings" in the application menu by clicking the upper left graphic in the Home screen. To access options for individual tasks, press the "Settings" button in the Copy, Backup or Restore Tab to set options for that specific task.



**Note:** *The settings defined from in Global Settings are overridden by settings defined from the individual task settings.*

## Copy Tab



### Verify after copy

The files that are copied will be verified to make sure that they were written correctly. Selecting this option will increase copy time. This setting is selected by default.



*It is highly recommended to select the option to verify your data after a copy job. This helps to ensure that the copied data matches the data presently on your system. If you do not select this option, and there is an error in some of your copied data, you will not be aware of the errors until you go to access the copied data.*

### **Enable Open FileCopy**

Select this option to have NovaBACKUP automatically copy open files on the local system using Volume Snapshot Service (VSS).

*Note: This option NOT available when running on Windows 2000.*

### **Enable Drive Letter Management**

Select this option to have NovaBACKUP automatically select the correct removable disk device (USB) even when it's drive letter changes.

### **Copy empty Folders**

Select this option to copy empty folders.

### **CopyOverwrite Options**

#### ***Always Overwrite***

Source file will always overwrite an existing file of the same name on the destination.

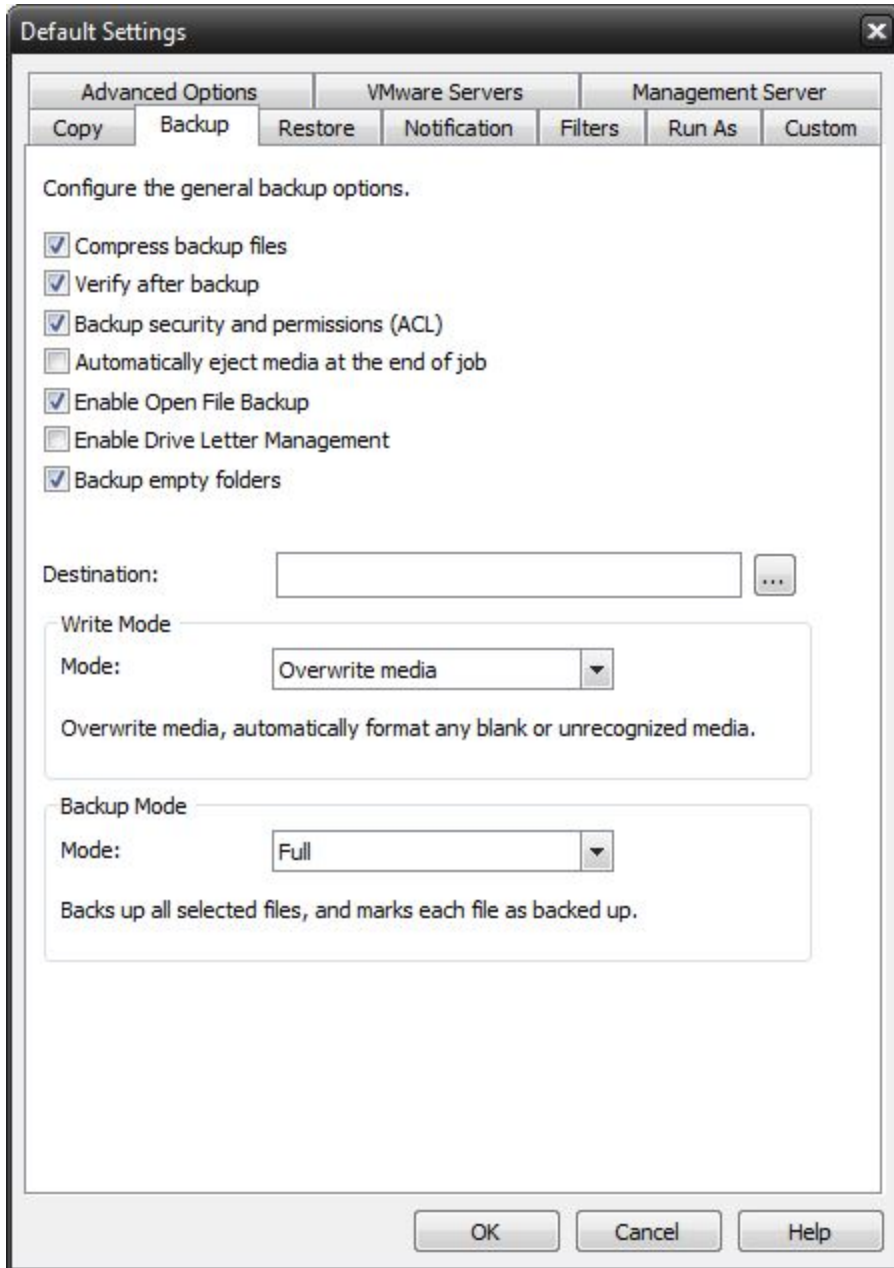
#### ***Never Overwrite***

Source file will never overwrite an existing file of the same name on the destination.

#### ***Overwrite older files only***

Source file will overwrite an existing file of the same name on the destination if the destination file is older.

### **Backup Tab**



### Compress backup files

The backup files are compressed to save space. Backup speed is decreased when this option is selected. This setting is unselected by default.

### Verify after backup

The files that are backed up will be verified to make sure that they were written correctly. Selecting this option will increase backup time. This setting is selected by default.



*It is highly recommended to select the option to verify your data after a backup. This helps to ensure that the backed up data matches the data presently on your system. If you do not select this option, and there is an error in some of your backed up data, there will be errors upon restoring that data if you should need to.*

**Backup ACL File Permissions**

Select this option to backup Access Control Lists (ACL's) in addition to file data. ACL's contain file and system permissions. This option should be enabled to maintain system security.

**Automatically Eject Media. . .**

Select this option to have NovaBACKUP automatically eject the media after a backup has completed (device must support media eject)

**Enable Open File Backup**

Select this option to have NovaBACKUP automatically backup open files on the local system using Volume Snapshot Service (VSS).

*Note: This option is NOT available when running on Windows 2000.*

**Enable Drive Letter Management**

Select this option to have NovaBACKUP automatically select the correct removable disk device (USB) even when it's drive letter changes.

**Backup empty folders**

Select this option backup empty folders.

**Destination**

Select the default destination device a backup for all new backup jobs

**Write Mode*****Overwrite media:***

Overwrite all recognized media. Automatically format blank or unrecognized media

***Append to Media:***

Append to recognized media. Automatically format blank or unrecognized media

***Backup Mode******Full***

Backs up all selected files, and marks each file as backed up. This is the default setting.

***Incremental***

Backs up (and marks as backed up) selected files that have either not been backed up previously or have changed.

***Differential***

Backs up selected files that have either not been backed up previously or have changed. These backed up files are not marked as backed up, however.

### ***Snapshot***

Backs up all selected files and does not mark any files as backed up.

## **Restore Tab**

The image shows a 'Default Settings' dialog box with a tabbed interface. The 'Restore' tab is selected. The dialog has a title bar with a close button. Below the title bar are three main tabs: 'Advanced Options', 'VMware Servers', and 'Management Server'. Under 'Advanced Options', there are sub-tabs: 'Copy', 'Backup', 'Restore' (selected), 'Notification', 'Filters', 'Run As', and 'Custom'. The 'Restore' tab contains the following options:

- Configure the restore options.
  - ☒ Restore ACL file permissions
  - ☒ Restore empty folders
- When restoring a file that already exists on my computer
  - ☐ Do not overwrite existing files
  - ☐ Overwrite existing files if they are older
  - ☒ Overwrite existing files
- Restore to
  - ☒ Restore file(s) to original location
  - ☐ Restore file(s) to alternate location

Below the 'Restore to' section is a text input field and a 'Browse...' button.

At the bottom of the dialog are three buttons: 'OK', 'Cancel', and 'Help'.

## **Restore ACL File Permissions**

Select this option to restore security permissions on files and subdirectories. Note that the backup ACL's option must have been selected during the original backup for them to be restored.

### **Restore empty folders**

Select this option to restore empty folders.

### **Existing Files Options**

The recommended setting is to not overwrite a file if it already exists on your computer. Other choices include only overwriting the file if the existing file is older or always overwriting the file.

#### **Do not overwrite existing files**

Upon restoration, files that already exist on your computer will not be overwritten by files from the backup

#### **Overwrite existing files if they are older**

Upon restoration, if a file is found to exist on your computer already, it will only be overwritten if the file on your computer is older than the one found in the backup.

#### **Overwrite existing files**

Upon restoration, if a file is found to already exist on your computer, it will always be overwritten.

### **Restore File Placement**

The default setting is to restore the file(s) to the original location they were backed up from.

#### **Restore file to its original location**

Upon restoration, all files will be restored to their original location.

#### **Restore file(s) to an alternate location**

Upon restoration, all files will be restored to an alternate location. This location can be specified by typing the path to the restoration directory in the text box or by selecting a directory by clicking on the "Browse" button that will appear to the left of the text box when the radio button is selected.

## Notification Tab

The screenshot shows a 'Default Settings' dialog box with a dark title bar and a close button. The dialog has a tabbed interface with three main sections: 'Advanced Options', 'VMware Servers', and 'Management Server'. Under 'Advanced Options', there are sub-tabs: 'Copy', 'Backup', 'Restore', 'Notification' (which is selected), 'Filters', 'Run As', and 'Custom'. The 'Notification' tab contains two main sections: 'Notification Options' and 'Program Updates'. In 'Notification Options', there are three checkboxes: 'Print log (Prints log file to your default printer)', 'E-mail', and 'Attach log file in E-mail'. The 'E-mail' checkbox is checked, and there is an 'E-mail Settings...' button next to it. Below these are four radio buttons: 'ONLY if operation had messages/errors/warnings' (selected), 'ONLY if operation had errors/warnings', 'ONLY if operation had errors', and 'Always'. In the 'Program Updates' section, there are two checked checkboxes: 'Show notification when starting the program' and 'Automatically update before running a backup'. At the bottom of the dialog are 'OK', 'Cancel', and 'Help' buttons.

Advanced Options	VMware Servers	Management Server
Copy	Backup	Restore
Notification	Filters	Run As
Custom		

**Notification Options**

☐ Print log (Prints log file to your default printer)

☒ E-mail E-mail Settings...

☐ Attach log file in E-mail

☒ ONLY if operation had messages/errors/warnings

☐ ONLY if operation had errors/warnings

☐ ONLY if operation had errors

☐ Always

**Program Updates**

☒ Show notification when starting the program

☒ Automatically update before running a backup

OK Cancel Help

### Notification Options

#### Email

Use this option to receive job notification in E-mail.

You have the option to allow the logs to be e-mailed to the specified email address. To utilize these settings you must first configure the e-mail options by clicking on the "E-Mail Settings" button.



## E-mail Settings

Depending on your product, you may be able to choose to use the NovaBACKUP Alerts service to send your e-mail logs or to manually enter a custom SMTP configuration.

- If you choose to use the NovaBACKUP Alerts service, the only information you need to provide is the recipient e-mail address or addresses you would like to receive notifications.
- If you choose to use a Custom SMTP service, your SMTP server information may be acquired from your System Administrator or service provider.
  - You will need to input a valid e-mail addresses for both the sender and the recipient.
  - These can be the same e-mail address.
  - If your SMTP server requires authentication, you may do so by tagging the checkbox for authentication and supplying your user name and password.

## NovaBACKUP Alerts

If your product supports it, you may have the ability to choose the NovaBACKUP Alerts service to send your e-mail notifications. The NovaBACKUP Alerts service is a pre-configured email notification service.

- \* It is not required to use this service and you should check with your System Administrator to see if sending e-mail notifications through a 3rd party service is allowed in your organization.
- \* By using the NovaBACKUP Alerts service, you are agreeing to our End-User Licensing Agreement and Privacy Policies.

Configure E-mail Settings

The following options are used to configure sending logs via e-mail. E-mail is delivered via SMTP only. A SMTP server must be specified along with a valid sender and recipient e-mail addresses.

Choose notification service

☒ NovaBACKUP Alerts
☐ Custom SMTP

User Information

Your Name

NovaBACKUP Alerts

E-Mail Address

noreply@novastor.com

Server Information

SMTP Server Name
SMTP Server Port

25

☐ Use SSL
☐ My SMTP server requires authentication

User Name
Password
Retries

1

Timeout Interval (in Seconds)

5

Recipient Information

Please use semicolons (;) to separate multiple e-mail addresses.

To
CC

Testing Your Email Settings...

After you have completed filling out the information above, you can test your email settings by pressing the Test Email Settings button.

Test Email Settings

Save

Cancel

Reset



*Be sure to test your settings by clicking the "Test Email settings" button*

## Print Log

Here, you have the option to print the log automatically to your default printer.

## Notification Conditions

- ONLY if operation had messages/errors/warnings
- ONLY if operation had errors/warnings
- ONLY if operation had errors
- Always

## Program Updates

When a program update is available, display the option to install it when the program starts.

### *Show notification when starting the program*

When a program update is available, display the option to install it when the program starts.

### *Automatically update before running a backup*

When a program update is available, install it before starting the next backup.

## Filters Tab

The screenshot shows the 'Default Settings' dialog box with the 'Filters' tab selected. The dialog has a title bar with a close button. Below the title bar are three tabs: 'Advanced Options', 'VMware Servers', and 'Management Server'. Under 'Advanced Options' are sub-tabs: 'Copy', 'Backup', 'Restore', 'Notification', 'Filters' (selected), 'Run As', and 'Custom'. The 'Filters' tab contains three sections: 'Wildcards', 'Include Files with these Dates and Size', and 'Exclude Files with these Attributes'. The 'Wildcards' section has checkboxes for 'Include Wildcard' and 'Exclude Wildcard', each followed by a text field for 'File Mask (separate by comma)'. The 'Include Files with these Dates and Size' section has 'From' and 'To (including)' columns for 'Created', 'Modified', and 'Accessed' dates, and a 'Size' field. The 'Exclude Files with these Attributes' section has a table with 'File Attribute' and 'Description' columns, listing 'Read-Only', 'Hidden', and 'System' attributes. At the bottom are 'OK', 'Cancel', and 'Help' buttons.

File Attribute	Description
<input type="checkbox"/> Read-Only	Files that can be read but cannot be written or deleted.
<input type="checkbox"/> Hidden	Files that are not included in an ordinary listing.
<input type="checkbox"/> System	Files that are part of the operating system.

## Wildcards

**IncludeWildcard:** Enter all wildcards for files you want to include in the default job separated by a comma (example: \*.doc, \*.xls, \*.dat)

**ExcludeWildcard:** Enter all wildcards for files you want to include in the default job separated by a comma (example: \*.doc, \*.xls, \*.dat)

**Include Files with these Dates and Size**

Under this section, you can create an include filter by selecting dates that files were last created, modified, or accessed or by there file size that you wish to ensure are included in your backup. This is helpful if you want to reduce the time or file size of a backup. You may want to exclude older files that are no longer accessed or larger files you have already backed up..

**Exclude Files with these Attributes**

Under this section, you can create an exclude filter based on the file attributes: "Read Only", "Hidden" and "System". For example, if you would to exclude System or Hidden files, check the appropate box next to the attribute.

## Run As Tab

The screenshot shows a 'Default Settings' dialog box with a tabbed interface. The 'Run As' tab is selected. The dialog has a title bar with 'Default Settings' and a close button. Below the title bar are three main tabs: 'Advanced Options', 'VMware Servers', and 'Management Server'. Under 'Management Server', there are sub-tabs: 'Copy', 'Backup', 'Restore', 'Notification', 'Filters', 'Run As' (selected), and 'Custom'. The 'Run As' tab contains a section titled 'When running a job, login using this account'. It has two radio buttons: 'Run as logged in user' (selected) and 'Run as specific user'. Below these are three text input fields labeled 'Domain Name', 'User Name', and 'User Password'. A 'Check Credentials' button is located below the 'User Password' field. At the bottom of the dialog are 'OK', 'Cancel', and 'Help' buttons.

Advanced Options		VMware Servers		Management Server		
Copy	Backup	Restore	Notification	Filters	Run As	Custom

When running a job, login using this account

☒ Run as logged in user

☐ Run as specific user

Domain Name

User Name

User Password

Check Credentials

OK Cancel Help

### When running a job, login using this account

#### Run as logged in user:

Run the job using the Windows login credentials in effect at that time.

#### Run as specific user:

Run the job using the specified credentials.

**Domain Name:** The domain name you are logging into.

**Run as User Name:** The user name you want the job to run as.

**Password:** The password for the account you want the job to run as.

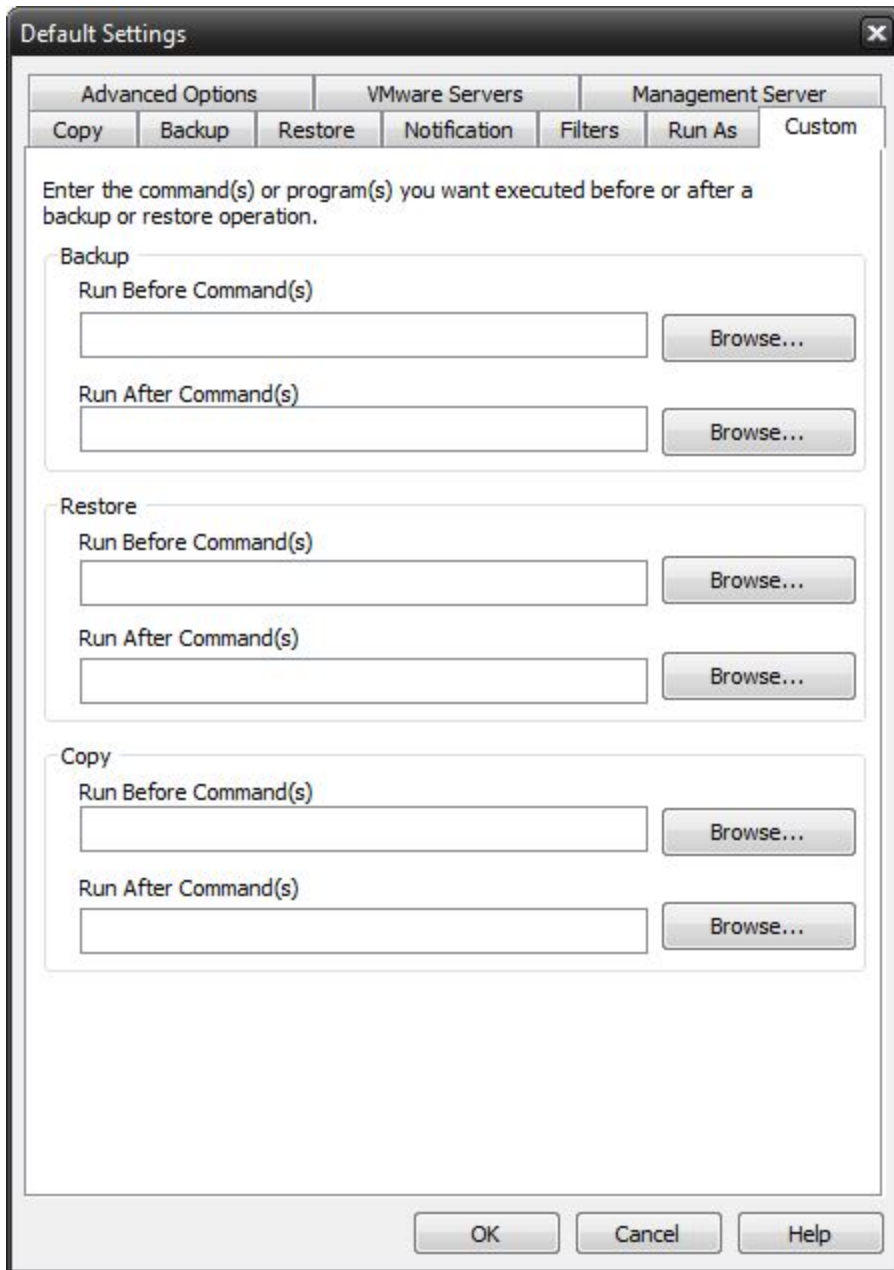


**Note:** The account information entered here is usually account you use to login to windows. However, you may need to use a different account when backing up network/shared drives.



**Important:** If you have entered credentials you must click the "Check Credentials" button to validate the account you have entered before proceeding forward.

## Custom Tab



The screenshot shows a 'Default Settings' dialog box with a 'Custom' tab selected. The dialog has a title bar with a close button. Below the title bar are three main sections: 'Advanced Options', 'VMware Servers', and 'Management Server'. Under 'Advanced Options', there are sub-tabs: 'Copy', 'Backup', 'Restore', 'Notification', 'Filters', 'Run As', and 'Custom'. The 'Custom' sub-tab is active. The main area contains the instruction: 'Enter the command(s) or program(s) you want executed before or after a backup or restore operation.' There are three sections: 'Backup', 'Restore', and 'Copy'. Each section has two text input fields: 'Run Before Command(s)' and 'Run After Command(s)', each with a 'Browse...' button next to it. At the bottom are 'OK', 'Cancel', and 'Help' buttons.

Default Settings

Advanced Options | VMware Servers | Management Server

Copy | Backup | Restore | Notification | Filters | Run As | Custom

Enter the command(s) or program(s) you want executed before or after a backup or restore operation.

**Backup**

Run Before Command(s)

Browse...

Run After Command(s)

Browse...

**Restore**

Run Before Command(s)

Browse...

Run After Command(s)

Browse...

**Copy**

Run Before Command(s)

Browse...

Run After Command(s)

Browse...

OK Cancel Help

This feature enables a command to run before or after a backup, restore or copy job

To select which program or command you would like to run before or after those operations, simply browse to the program or command using the "Browse" button.



The benefits of this feature are numerous. For instance, one would be able to stop Antivirus scanning by issuing a command to their Anti-virus program prior to NovaBACKUP beginning the backup. Alternatively, a command can be issued at the end of the backup to

begin an anti-virus scan. Also one could issue a command to close a database at the beginning of a backup and reopen it at the end of a backup

## Advanced Options Tab

The screenshot shows the 'Default Settings' dialog box with the 'Advanced Options' tab selected. The dialog has a title bar with a close button. Below the title bar are tabs for 'Copy', 'Backup', 'Restore', 'Notification', 'Filters', 'Run As', and 'Custom'. Under the 'Advanced Options' tab, there are sub-tabs for 'VMware Servers' and 'Management Server'. The 'Timed Prompts' section contains three radio buttons: 'Wait the default amount of time' (selected), 'Wait indefinitely', and 'Wait for a specified number of seconds'. Below these is a text box labeled 'Seconds to wait'. The 'Maximum number of logs to keep:' is set to 100. The 'Minimum free space to leave on System directory drive (MB):' is set to 1500. The 'Minimum free space to leave on Temp directory drive (MB):' is set to 1500. The 'Temporary Files directory:' is an empty text box with a browse button (...). A note states: 'Note: Changing the temporary files directory requires a restart of the backup service.' Below this is a button labeled 'Edit default exclude filter'. The 'Restore By Time: Restorable Window' section has a text box with '0' and a dropdown menu with 'days'. At the bottom, there is a checked checkbox labeled 'Automatically refresh when switching to restore after backups complete'. The dialog ends with 'OK', 'Cancel', and 'Help' buttons.

Default Settings

Copy Backup Restore Notification Filters Run As Custom

Advanced Options VMware Servers Management Server

Timed Prompts

When a timed prompt is displayed:

☒ Wait the default amount of time

☐ Wait indefinitely

☐ Wait for a specified number of seconds

Seconds to wait

Maximum number of logs to keep:

Minimum free space to leave on System directory drive (MB):

Minimum free space to leave on Temp directory drive (MB):

Temporary Files directory:

...

Note: Changing the temporary files directory requires a restart of the backup service.

Edit default exclude filter

Restore By Time: Restorable Window

☒ Automatically refresh when switching to restore after backups complete

OK Cancel Help

## Timed Prompts

When prompts or dialogs are displayed, select the action you want performed.





This option is useful in allowing fully unattended operation or permitting the administrator to respond to specific issues or requests.

#### **Maximum number of logs to keep**

This value limits the number of logs saved to disk. The most recent logs up to the maximum will remain available.

#### **"Minimum Free Space" settings**

This values represent the minimum amount of free disk space that must be available on the System (OS) and Temp drive (if different) in order for jobs to run.

#### **"Temporary files directory"**

Directory used to stage working files used by NovaBACKUP. If your system is running low on space, you can move this directory to another drive.

#### **"Edit default exclude filter"**

Select this option to add or edit folders, files or file types that should be excluded from jobs regardless of selection.

#### **"Restore By Time: Restorable Window"**

Use this option to restrict the time range in effect for the Restore Files By Time view. A setting of zero will have no effect. Otherwise the value set here will define the time in effect from the current time selected moving back in time. This setting has no effect in the Restore Files By Device view.

#### **"Automatically refresh when switching to restore after backups complete"**

Use this option to make the Restore By Time view automatically build a new filelist when switching to the restore view after a backup has completed.

## Management Server Tab

The screenshot shows a 'Default Settings' dialog box with a tabbed interface. The 'Management Server' tab is selected. It contains fields for 'Server name' (www.mydomain.com), 'Port number' (4502), and 'Default group'. A 'Start Service' button is present, with a message 'The service is stopped.' below it. At the bottom, there is a checkbox for 'Allow the Management Server to configure my devices' and 'OK', 'Cancel', and 'Help' buttons.

Copy	Backup	Restore	Notification	Filters	Run As	Custom
Advanced Options		VMware Servers		Management Server		

Server name:

Port number (between 1-65535):

Default group:  
For example, Root or Root\Level1\Level2

The Backup Client Agent Service is required to contact the Management Server.

The service is stopped.

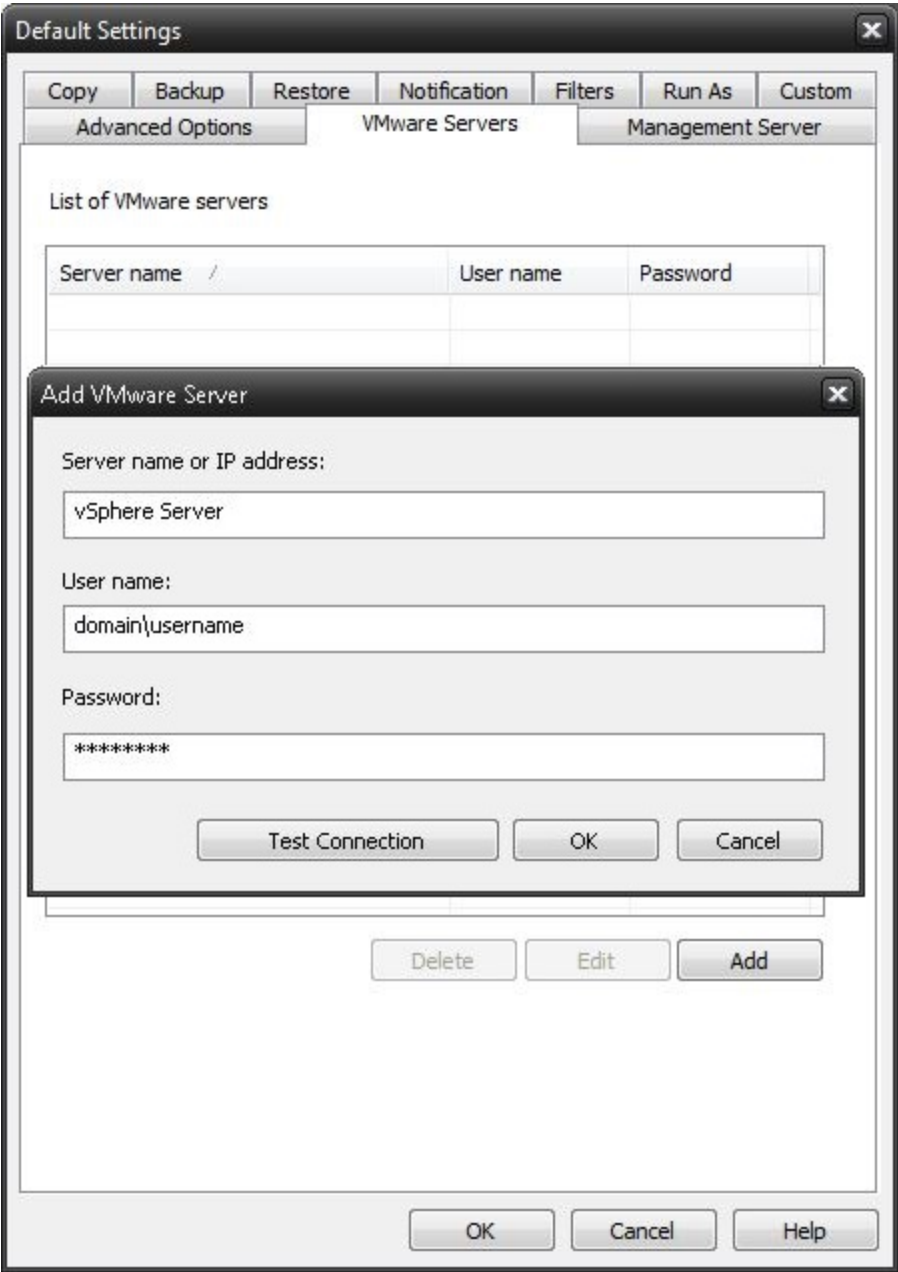
☐ Allow the Management Server to configure my devices

For those installations accessible from a central management console, this screen may be used to specify the server name and port to access the management server.

### Default Group

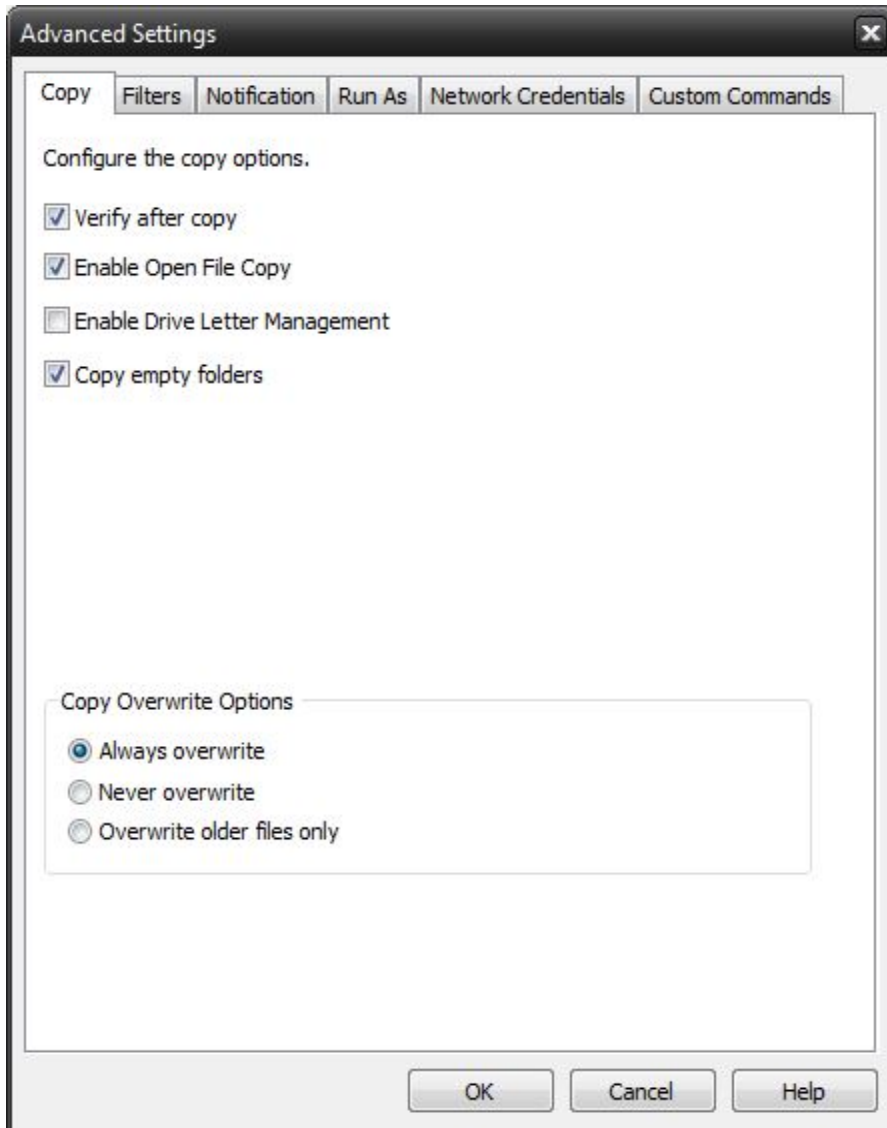
Use this setting to specify the group name to use when adding this client to the central management console. If this setting is not specified, this client will be added to the default group.

VMware Servers Tab



For those licensed to use the VMware Plugin, this tab is used to add a new connection to an ESX(i) or vSphere server.

## Copy Job Options



The image shows a Windows-style dialog box titled "Advanced Settings" with a close button (X) in the top right corner. It features a tabbed interface with five tabs: "Copy", "Filters", "Notification", "Run As", and "Network Credentials". The "Copy" tab is currently selected. Below the tabs, the text "Configure the copy options." is displayed. There are four checkboxes: "Verify after copy" (checked), "Enable Open File Copy" (checked), "Enable Drive Letter Management" (unchecked), and "Copy empty folders" (checked). Below these is a section titled "Copy Overwrite Options" containing three radio buttons: "Always overwrite" (selected), "Never overwrite", and "Overwrite older files only". At the bottom of the dialog are three buttons: "OK", "Cancel", and "Help".

### Verify after copy

The files that are copied will be verified to make sure that they were written correctly. Selecting this option will increase copy time. This setting is selected by default.



*It is highly recommended to select the option to verify your data after a copy job. This helps to ensure that the copied data matches the data presently on your system. If you do not select this option, and there is an error in some of your copied data, you will not be aware of the errors until you go to access the copied data.*

### Enable Open FileCopy

Select this option to have NovaBACKUP automatically copy open files on the local system using Volume Snapshot Service (VSS).  
*Note: This option NOT available when running on Windows 2000.*

#### **Enable Drive Letter Management**

Select this option to have NovaBACKUP automatically select the correct removable disk device (USB) even when it's drive letter changes.

#### **Copy empty folders**

Select this option to copy empty folders.

#### **CopyOverwrite Options**

##### ***Always Overwrite***

Source file will always overwrite an existing file of the same name on the destination.

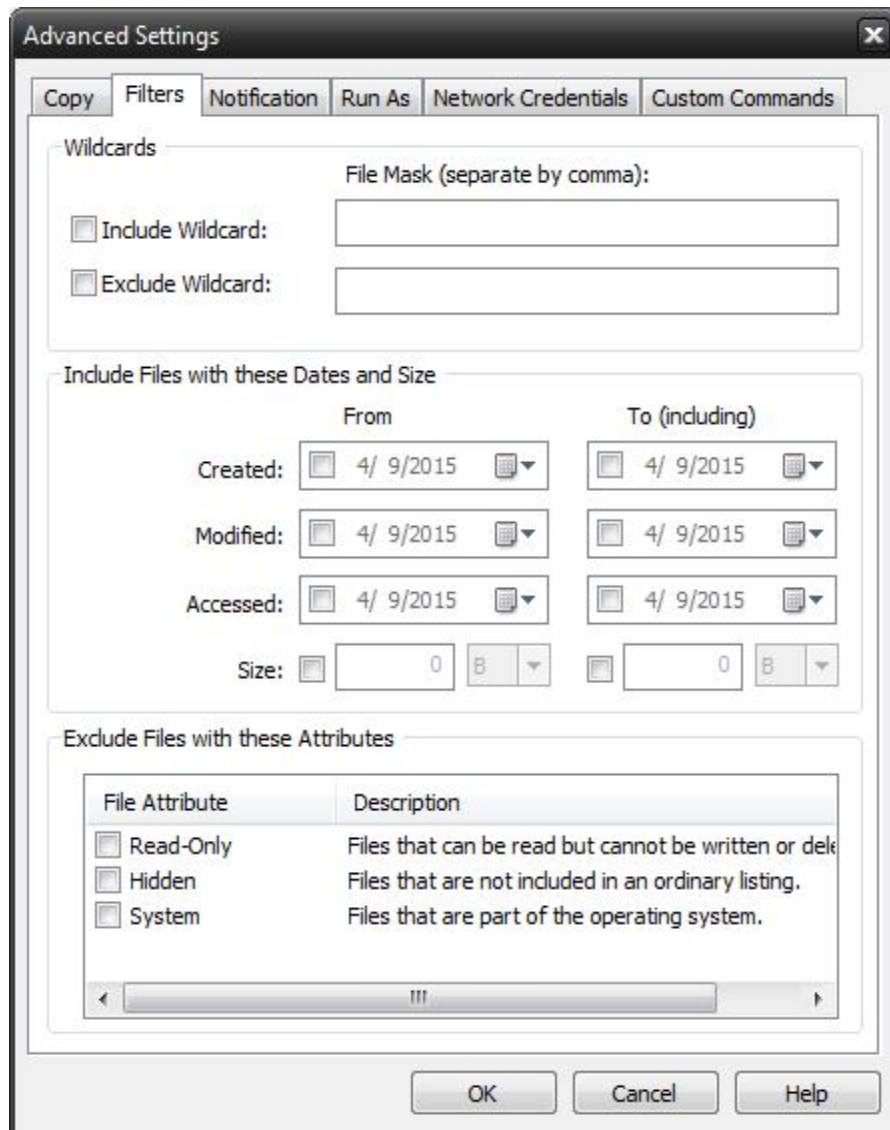
##### ***Never Overwrite***

Source file will never overwrite an existing file of the same name on the destination.

##### ***Overwrite older files only***

Source file will overwrite an existing file of the same name on the destination if the destination file is older.

## Copy Job Filters



The image shows a screenshot of the 'Advanced Settings' dialog box, specifically the 'Filters' tab. The dialog has a title bar with a close button. Below the title bar are five tabs: 'Copy', 'Filters' (selected), 'Notification', 'Run As', 'Network Credentials', and 'Custom Commands'. The 'Filters' tab contains three main sections: 'Wildcards', 'Include Files with these Dates and Size', and 'Exclude Files with these Attributes'. The 'Wildcards' section has a label 'File Mask (separate by comma):' and two input fields, one for 'Include Wildcard:' and one for 'Exclude Wildcard:'. The 'Include Files with these Dates and Size' section has a 'From' column and a 'To (including)' column. Each column has three rows for 'Created:', 'Modified:', and 'Accessed:', each with a date picker set to '4/ 9/2015'. There is also a 'Size:' row with two input fields, each set to '0' and a unit dropdown set to 'B'. The 'Exclude Files with these Attributes' section contains a table with two columns: 'File Attribute' and 'Description'. The table has three rows: 'Read-Only' (Files that can be read but cannot be written or deleted), 'Hidden' (Files that are not included in an ordinary listing), and 'System' (Files that are part of the operating system). At the bottom of the dialog are three buttons: 'OK', 'Cancel', and 'Help'.

File Attribute	Description
<input type="checkbox"/> Read-Only	Files that can be read but cannot be written or deleted.
<input type="checkbox"/> Hidden	Files that are not included in an ordinary listing.
<input type="checkbox"/> System	Files that are part of the operating system.

### Wildcards

**IncludeWildcard:** Enter all wildcards for files you want to include in the default job separated by a comma (example: \*.doc, \*.xls, \*.dat)

**ExcludeWildcard:** Enter all wildcards for files you want to include in the default job separated by a comma (example: \*.doc, \*.xls, \*.dat)

### Include Files with these Dates and Size

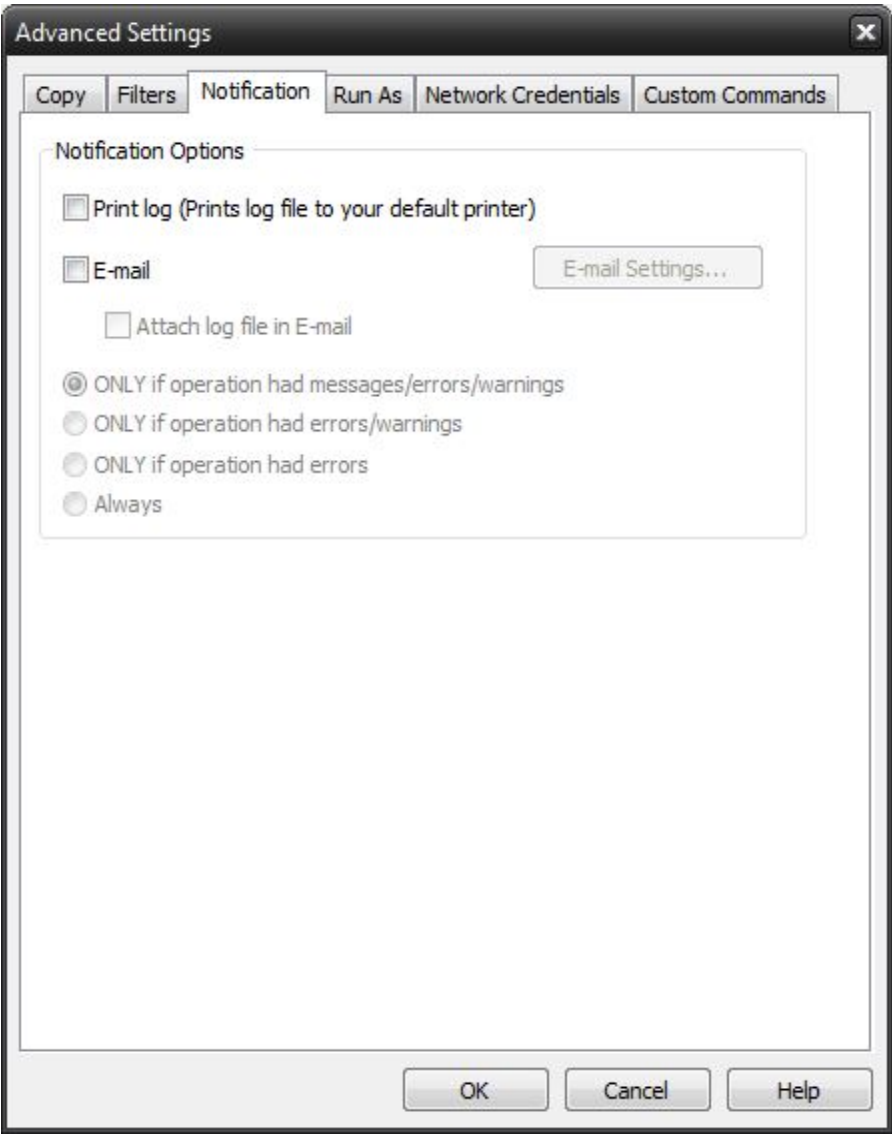
Under this section, you can create an include filter by selecting dates that files were last created, modified, or accessed or by their file size that you wish to ensure are included in your backup. This is helpful if you want to reduce the time or file size of a backup. You may want to exclude older files that are no longer accessed or larger files you have already backed up..

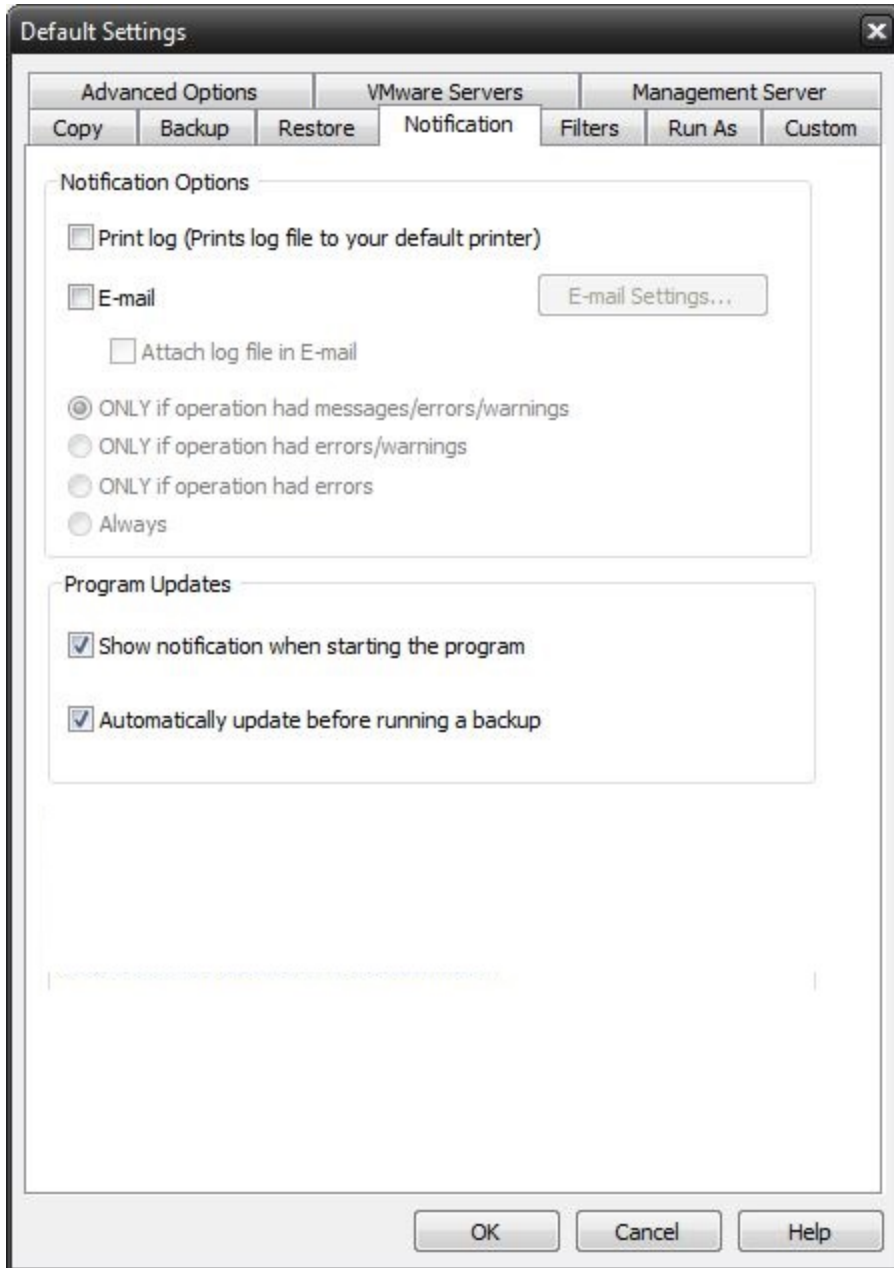
**Exclude Files with these Attributes**

Under this section, you can create an exclude filter based on the file attributes: "Read Only", "Hidden" and "System". For example, if you would to exclude System or Hidden files, check the appropate box next to the attribute.

Type topic text here.

**Copy Job Notification**





## Notification Options

### Email

Use this option to receive job notification in E-mail.

You have the option to allow the logs to be e-mailed to the specified email address. To utilize these settings you must first configure the e-mail options by clicking on the "E-Mail Settings" button.

### E-mail Settings



Depending on your product, you may be able to choose to use the NovaBACKUP Alerts service to send your e-mail logs or to manually enter a custom SMTP configuration.

- If you choose to use the NovaBACKUP Alerts service, the only information you need to provide is the recipient e-mail address or addresses you would like to receive notifications.
- If you choose to use a Custom SMTP service, your SMTP server information may be acquired from your System Administrator or service provider.
  - You will need to input a valid e-mail addresses for both the sender and the recipient.
  - These can be the same e-mail address.
  - If your SMTP server requires authentication, you may do so by tagging the checkbox for authentication and supplying your user name and password.

### **NovaBACKUP Alerts**

If your product supports it, you may have the ability to choose the NovaBACKUP Alerts service to send your e-mail notifications. The NovaBACKUP Alerts service is a pre-configured email notification service.

\* It is not required to use this service and you should check with your System Administrator to see if sending e-mail notifications through a 3rd party service is allowed in your organization.

\* By using the NovaBACKUP Alerts service, you are agreeing to our End-User Licensing Agreement and Privacy Policies.

Configure E-mail Settings

The following options are used to configure sending logs via e-mail. E-mail is delivered via SMTP only. A SMTP server must be specified along with a valid sender and recipient e-mail addresses.

Choose notification service

☒ NovaBACKUP Alerts
☐ Custom SMTP

User Information

Your Name

NovaBACKUP Alerts

E-Mail Address

noreply@novastor.com

Server Information

SMTP Server Name
SMTP Server Port

25

☐ Use SSL
☐ My SMTP server requires authentication

User Name
Password
Retries

1

Timeout Interval (in Seconds)

5

Recipient Information

Please use semicolons (;) to separate multiple e-mail addresses.

To
CC

Testing Your Email Settings...

After you have completed filling out the information above, you can test your email settings by pressing the Test Email Settings button.

Test Email Settings

Save

Cancel

Reset



Be sure to test your settings by clicking the "Test Email settings" button

## Print Log

Here, you have the option to print the log automatically to your default printer. **Notification Conditions**

- ONLY if operation had messages/errors/warnings
- ONLY if operation had errors/warnings
- ONLY if operation had errors
- Always

## Copy Job Run As

The screenshot shows a window titled "Advanced Settings" with a close button (X) in the top right corner. Below the title bar is a tabbed interface with five tabs: "Copy", "Filters", "Notification", "Run As" (which is selected), and "Network Credentials". The "Run As" tab contains the following elements:

- A label: "When running a job, login using this account"
- Two radio buttons:
  - ☒ Run as logged in user
  - ☐ Run as specific user
- A text input field labeled "Domain Name".
- A text input field labeled "User Name".
- A text input field labeled "User Password".
- A button labeled "Check Credentials" located below the password field.

At the bottom of the dialog box are three buttons: "OK", "Cancel", and "Help".

### When running a job, login using this account

#### Run as logged in user:

Run the job using the Windows login credentials in effect at that time.

#### Run as specific user:

Run the job using the specified credentials.

**Domain Name:** The domain name you are logging into.

**Run as User Name:** The user name you want the job to run as.

**Password:** The password for the account you want the job to run as.



**Note:** The account information entered here is usually account you use to login to windows. However, you may need to use a different account when backing up network/shared drives.



**Important:** If you have entered credentials you must click the "Check Credentials" button to validate the account you have entered before proceeding forward.

**Copy Job Network Credentials**

Advanced Settings

CopyFiltersNotificationRun AsNetwork CredentialsCustom Commands

Use this option to grant access to a network location, such as a NAS device or network share with a specific username and password.

Domain Name:

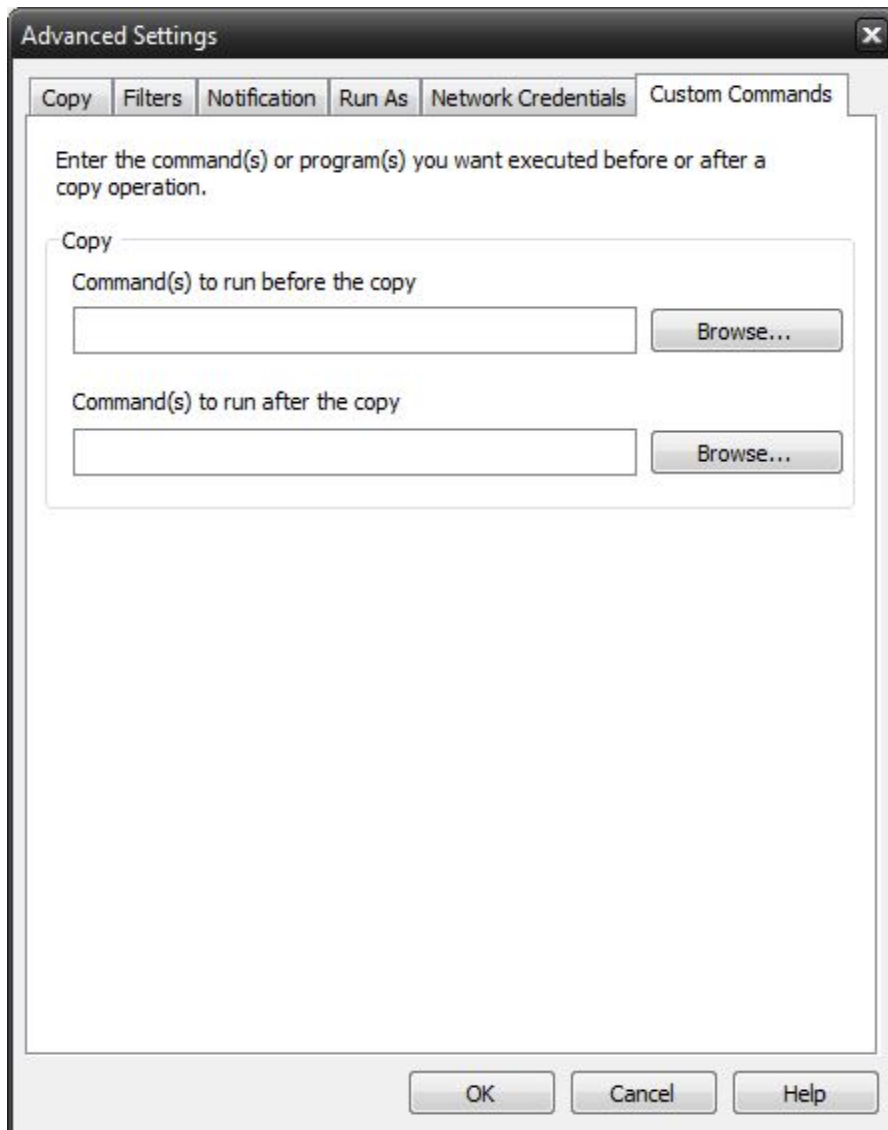
User Name:

User Password:

OKCancelHelp

This option may be used to access devices on the network which require different credentials than the defaults. You may use different credentials for this purpose than those set in the "Run As" Tab.

## Copy Job Custom Commands



This feature enables a command to run before or after a copy job

To select which program or command you would like to run before or after the copy operation, simply browse to the program or command using the "Browse" button.



The benefits of this feature are numerous. For instance, one would be able to stop Antivirus scanning by issuing a command to their Anti-virus program prior to NovaBACKUP beginning the copy job. Alternatively, a command can be issued at the end of the job to begin an anti-virus scan. Also one could issue a command to close a database at the beginning of a job and reopen it at the end of a job.

# Backup Job Options

Advanced Settings

Network Credentials

Custom Commands

Backup

Filters

Notification

Encryption

Run As

Configure the general backup options.

☒ Compress backup files

☒ Verify after backup

☒ Backup security and permissions (ACL)

☐ Automatically eject media at the end of job

☐ Enable Open File Backup

☐ Enable Drive Letter Management

☒ Backup empty folders

Destination:

Write Mode

Mode: 

Overwrite media

Overwrite media, automatically format any blank or unrecognized media.

Backup Mode

Mode: 

Full

Backs up all selected files, and marks each file as backed up.

OK

Cancel

Help

## Compress backup files

The backup files are compressed to save space. Backup speed is decreased when this option is selected. This setting is unselected by default.

## Verify after backup

The files that are backed up will be verified to make sure that they were written correctly. Selecting this option will increase backup time. This setting is selected by default.



*It is highly recommended to select the option to verify your data after a backup. This helps to ensure that the backed up data matches the data presently on your system. If you do not select this option, and there is an error in some of your backed up data, there will be errors upon restoring that data if you should need to.*

**Backup ACL File Permissions**

Select this option to backup Access Control Lists (ACL's) in addition to file data. ACL's contain file and system permissions. This option should be enabled to maintain system security.

**Automatically Eject Media. . .**

Select this option to have NovaBACKUP automatically eject the media after a backup has completed (device must support media eject)

**Enable Open File Backup**

Select this option to have NovaBACKUP automatically backup open files on the local system using Volume Snapshot Service (VSS).

*Note: This option is NOT available when running on Windows 2000.*

**Enable Drive Letter Management**

Select this option to have NovaBACKUP automatically select the correct removable disk device (USB) even when it's drive letter changes.

**Backup empty folders**

Select this option to have backup empty folders.

**Destination**

Select the default destination device a backup for all new backup jobs

**Write Mode*****Overwrite media:***

Overwrite all recognized media. Automatically format blank or unrecognized media

***Append to Media:***

Append to recognized media. Automatically format blank or unrecognized media

***Backup Mode******Full***

Backs up all selected files, and marks each file as backed up. This is the default setting.

***Incremental***

Backs up (and marks as backed up) selected files that have either not been backed up previously or have changed.

***Differential***

Backs up selected files that have either not been backed up previously or have changed. These backed up files are not marked as backed up, however.

***Snapshot***

Backs up all selected files and does not mark any files as backed up.

Backup Job Filters

Advanced Settings

Network Credentials

Custom Commands

Backup

Filters

Notification

Encryption

Run As

Wildcards

File Mask (separate by comma):

☐ Include Wildcard:

☐ Exclude Wildcard:

Include Files with these Dates and Size

From

To (including)

Created:

☐ 4/ 9/2015

☐ 4/ 9/2015

Modified:

☐ 4/ 9/2015

☐ 4/ 9/2015

Accessed:

☐ 4/ 9/2015

☐ 4/ 9/2015

Size:

☐  B

☐  B

Exclude Files with these Attributes

File Attribute	Description
<input type="checkbox"/> Read-Only	Files that can be read but cannot be written or deleted.
<input type="checkbox"/> Hidden	Files that are not included in an ordinary listing.
<input type="checkbox"/> System	Files that are part of the operating system.

OK

Cancel

Help

Wildcards

**IncludeWildcard:** Enter all wildcards for files you want to include in the default job separated by a comma (example: \*.doc,\*.xls,\*.dat)

**ExcludeWildcard:**Enter all wildcards for files you want to include in the default job separated by a comma (example: \*.doc,\*.xls,\*.dat)

Include Files with these Dates and Size

Under this section, you can create an include filter by selecting dates that files were last created, modified, or accessed or by there file size that you wish to ensure are included in your backup. This is helpful if you want to reduce the time or file size of a backup. You

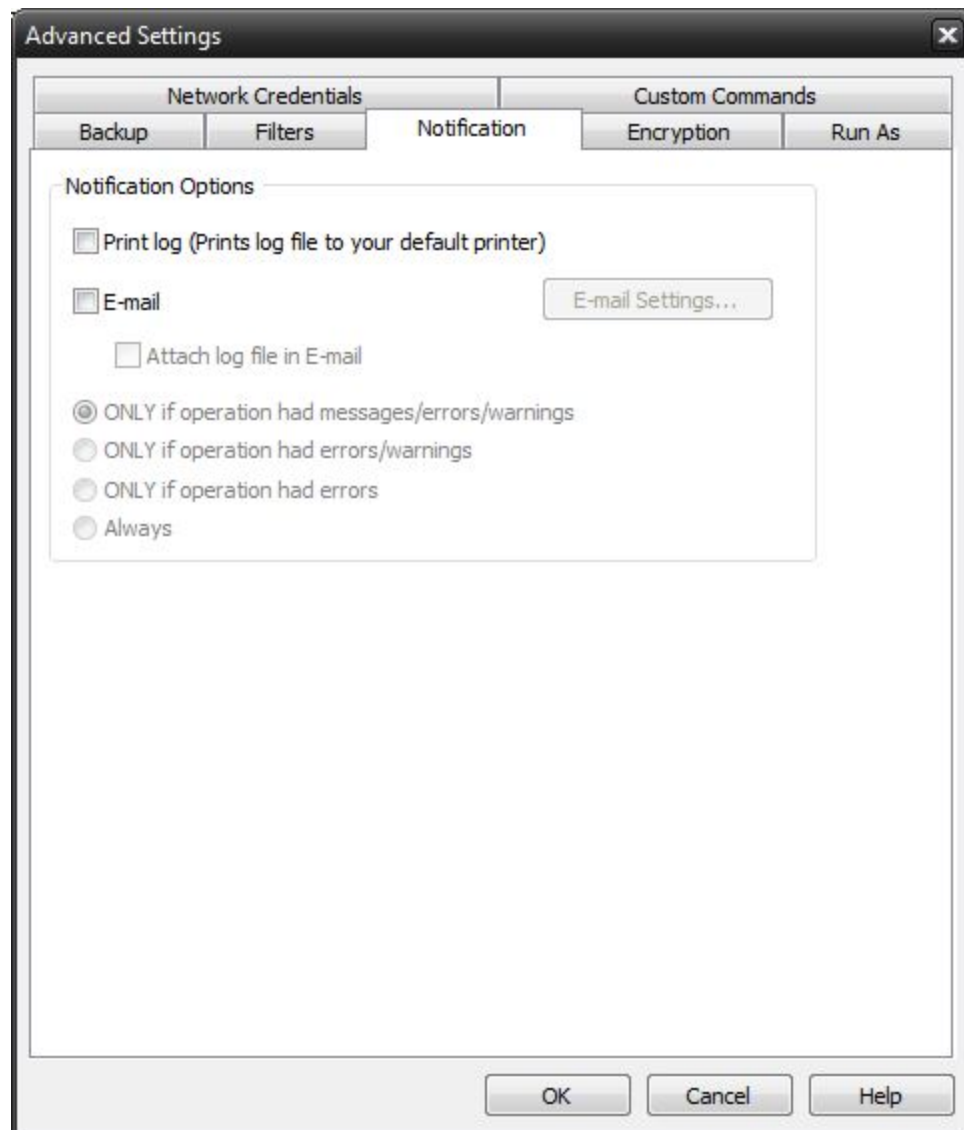


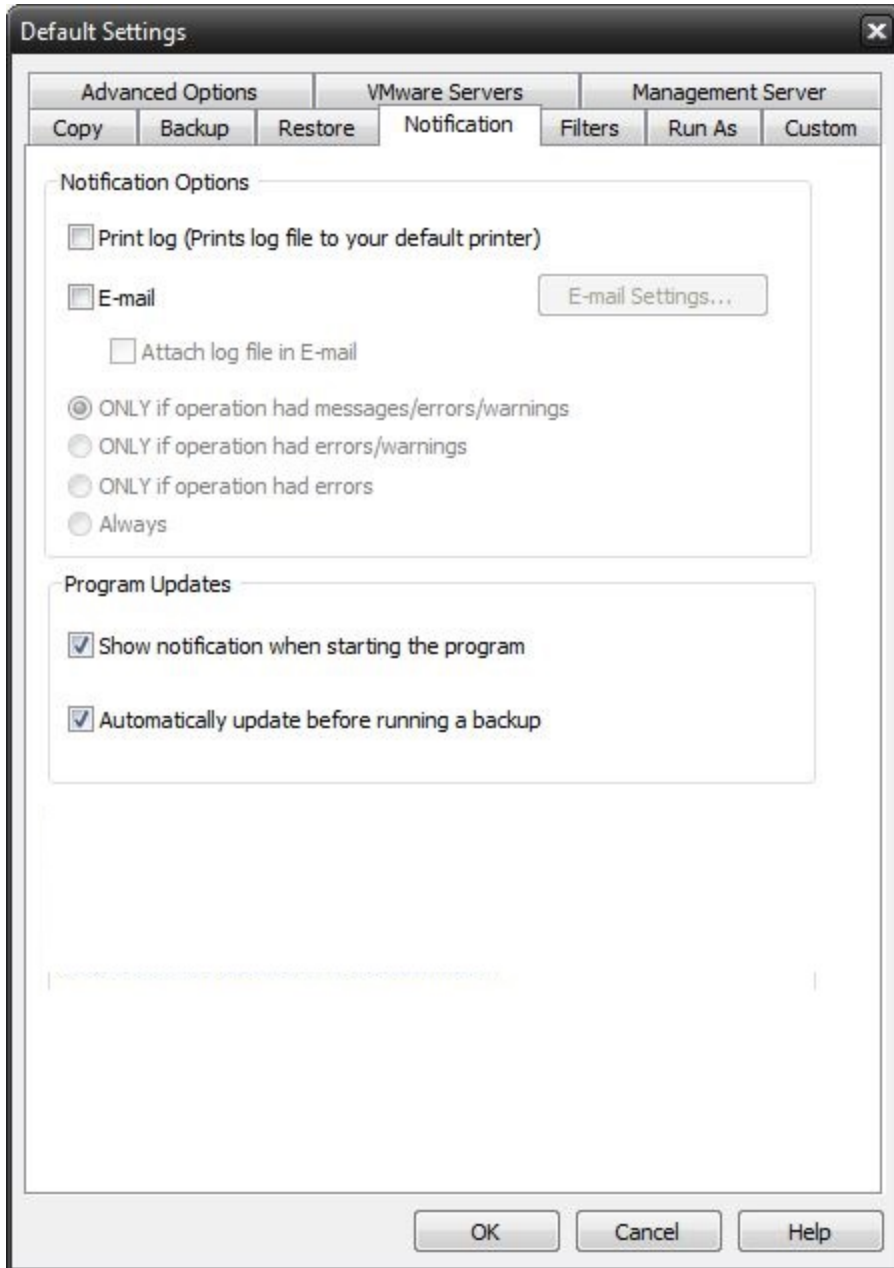
may want to exclude older files that are no longer accessed or larger files you have already backed up..

### Exclude Files with these Attributes

Under this section, you can create an exclude filter based on the file attributes: "Read Only", "Hidden" and "System". For example, if you would to exclude System or Hidden files, check the appropriate box next to the attribute.

### Backup Job Notifications





## Notification Options

### Email

Use this option to receive job notification in E-mail.

You have the option to allow the logs to be e-mailed to the specified email address. To utilize these settings you must first configure the e-mail options by clicking on the "E-Mail Settings" button.

### E-mail Settings

Depending on your product, you may be able to choose to use the NovaBACKUP Alerts service to send your e-mail logs or to manually enter a custom SMTP configuration.

- If you choose to use the NovaBACKUP Alerts service, the only information you need to provide is the recipient e-mail address or addresses you would like to receive notifications.
- If you choose to use a Custom SMTP service, your SMTP server information may be acquired from your System Administrator or service provider.
  - You will need to input a valid e-mail addresses for both the sender and the recipient.
  - These can be the same e-mail address.
  - If your SMTP server requires authentication, you may do so by tagging the checkbox for authentication and supplying your user name and password.

### **NovaBACKUP Alerts**

If your product supports it, you may have the ability to choose the NovaBACKUP Alerts service to send your e-mail notifications. The NovaBACKUP Alerts service is a pre-configured email notification service.

\* It is not required to use this service and you should check with your System Administrator to see if sending e-mail notifications through a 3rd party service is allowed in your organization.

\* By using the NovaBACKUP Alerts service, you are agreeing to our End-User Licensing Agreement and Privacy Policies.

Configure E-mail Settings

The following options are used to configure sending logs via e-mail. E-mail is delivered via SMTP only. A SMTP server must be specified along with a valid sender and recipient e-mail addresses.

Choose notification service

☒ NovaBACKUP Alerts
☐ Custom SMTP

User Information

Your Name

NovaBACKUP Alerts

E-Mail Address

noreply@novastor.com

Server Information

SMTP Server Name
SMTP Server Port

25

☐ Use SSL
☐ My SMTP server requires authentication

User Name
Password
Retries

1

Timeout Interval (in Seconds)

5

Recipient Information

Please use semicolons (;) to separate multiple e-mail addresses.

To
CC

Testing Your Email Settings...

After you have completed filling out the information above, you can test your email settings by pressing the Test Email Settings button.

Test Email Settings

Save

Cancel

Reset



Be sure to test your settings by clicking the "Test Email settings" button

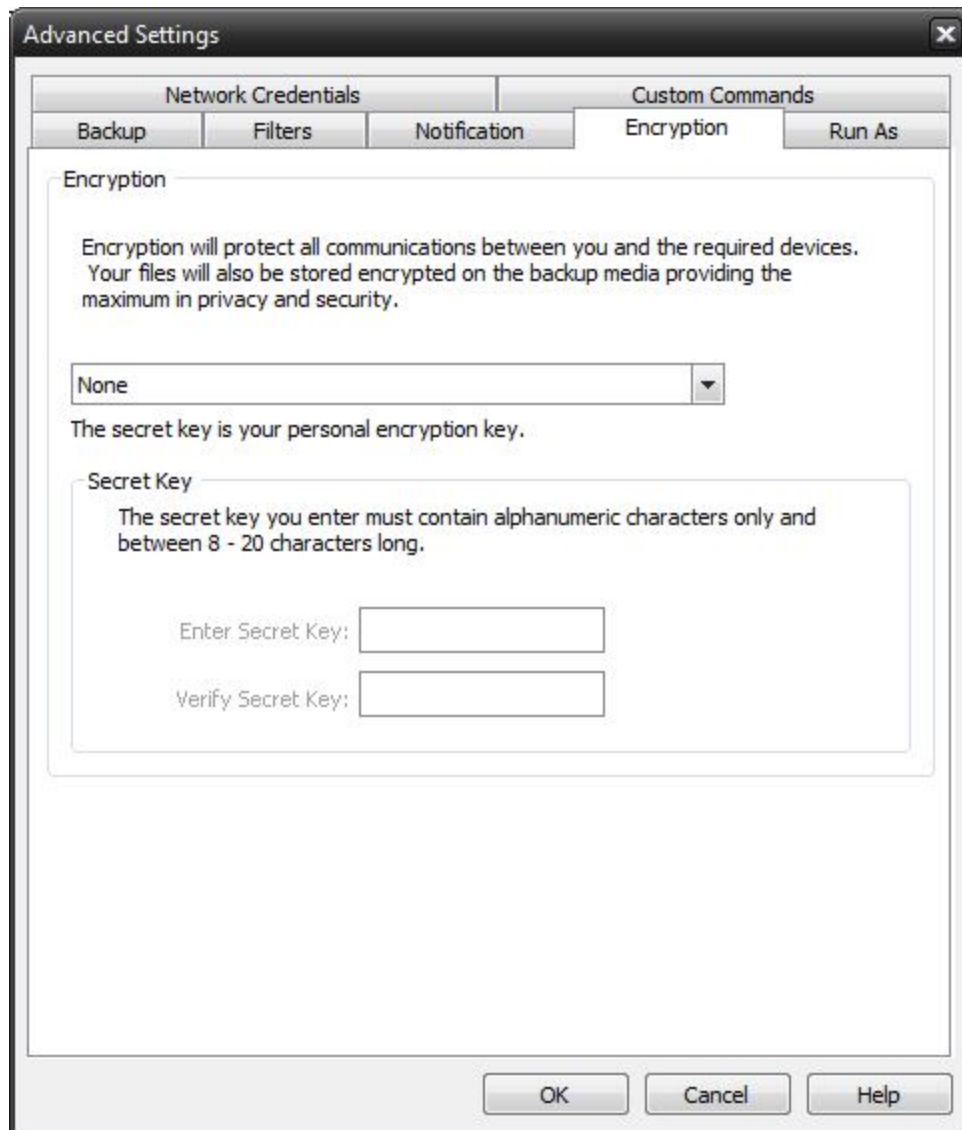
## Print Log

Here, you have the option to print the log automatically to your default printer.

## Notification Conditions

- ONLY if operation had messages/errors/warnings
- ONLY if operation had errors/warnings
- ONLY if operation had errors
- Always

## Backup Job Encryption



The screenshot shows a window titled "Advanced Settings" with a close button (X) in the top right corner. The window has a tabbed interface with the following tabs: "Network Credentials", "Custom Commands", "Backup", "Filters", "Notification", "Encryption" (which is the active tab), and "Run As". The "Encryption" tab contains the following content:

**Encryption**

Encryption will protect all communications between you and the required devices. Your files will also be stored encrypted on the backup media providing the maximum in privacy and security.

A dropdown menu is set to "None".

The secret key is your personal encryption key.

**Secret Key**

The secret key you enter must contain alphanumeric characters only and between 8 - 20 characters long.

Enter Secret Key:

Verify Secret Key:

At the bottom of the dialog are three buttons: "OK", "Cancel", and "Help".

## Encryption

### ***Encrypt Files on backup***

Encryption protects files as they are backed up to the selected device. In addition, files are maintained encrypted on the destination media for added security.

### ***Secret Key***

Encryption Key used for this particular backup job. Select a key containing from 8 to 20 characters



For added security, select a secret key that contains a combination of upper/lower case characters as well as numbers, punctuation and symbols.



Select a secret key that you will be able to remember. If you forgot your secret key, you will not be able to restore the data from the destination media.

**Backup Job Run As**

Advanced Settings

Network Credentials

Custom Commands

Backup

Filters

Notification

Encryption

Run As

When running a job, login using this account

☒ Run as logged in user

☐ Run as specific user

Domain Name

User Name

User Password

Check Credentials

OK

Cancel

Help

**When running a job, login using this account**

**Run as logged in user:**

Run the job using the Windows login credentials in effect at that time.

**Run as specific user:**

Run the job using the specified credentials.

**Domain Name:** The domain name you are logging into.

**Run as User Name:** The user name you want the job to run as.

**Password:** The password for the account you want the job to run as.



**Note:** The account information entered here is usually account you use to login to windows. However, you may need to use a different account when backing up network/shared drives.



**Important:** If you have entered credentials you must click the "Check Credentials" button to validate the account you have entered before proceeding forward.

## Backup Job Network Credentials

Advanced Settings

Backup

Filters

Notification

Encryption

Run As

Network Credentials

Custom Commands

Use this option to grant access to a network location, such as a NAS device or network share with a specific username and password.

Domain Name:

User Name:

User Password:

OK

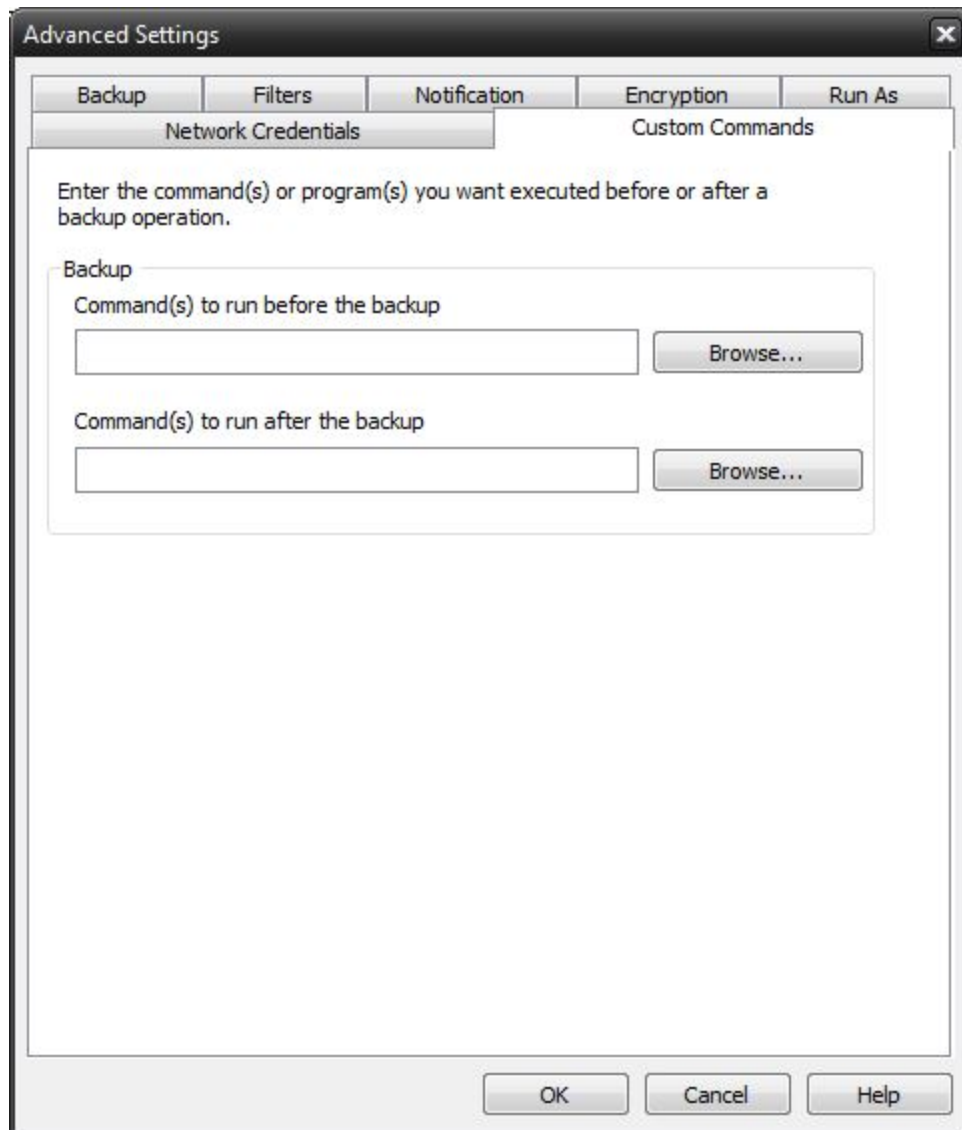
Cancel

Help

This option may be used to access devices on the network which require different credentials than the defaults. You may use different credentials for this purpose than those set in the "Run As" Tab.



## Backup Job Custom Commands



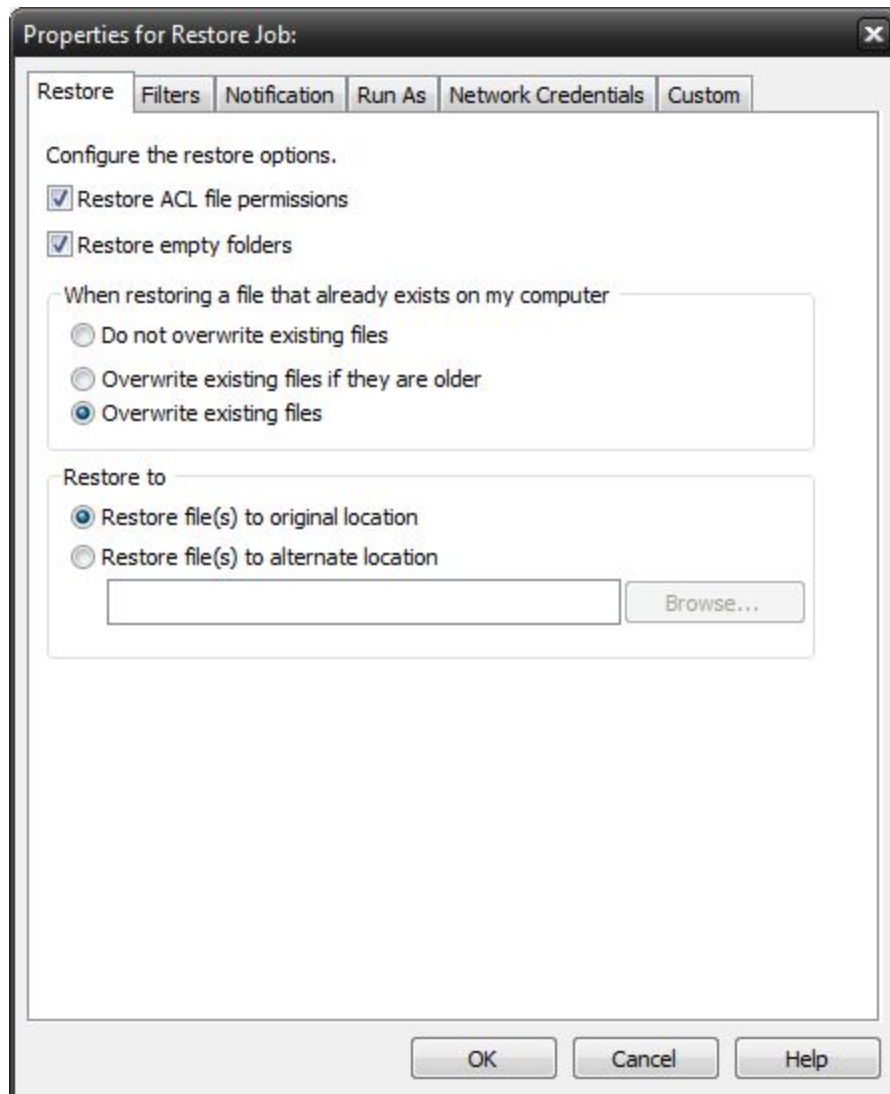
This feature enables a command to run before or after a backup job

To select which program or command you would like to run before or after the copy operation, simply browse to the program or command using the "Browse" button.



The benefits of this feature are numerous. For instance, one would be able to stop Antivirus scanning by issuing a command to their Anti-virus program prior to NovaBACKUP beginning the backup job. Alternatively, a command can be issued at the end of the job to begin an anti-virus scan. Also one could issue a command to close a database at the beginning of a job and reopen it at the end of a job.

## Restore Job Options



### Restore ACL File Permissions

Select this option to restore security permissions on files and subdirectories. Note that the backup ACL's option must have been selected during the original backup for them to be restored.

### Restore empty folders

Select this option to restore empty folders.

### Existing Files Options

The recommended setting is to not overwrite a file if it already exists on your computer. Other choices include only overwriting the file if the existing file is older or always overwriting the file.

#### Do not overwrite existing files

Upon restoration, files that already exist on your computer will not be overwritten by files from the backup

**Overwrite existing files if they are older**

Upon restoration, if a file is found to exist on your computer already, it will only be overwritten if the file on your computer is older than the one found in the backup.

**Overwrite existing files**

Upon restoration, if a file is found to already exist on your computer, it will always be overwritten.

**Restore File Placement**

The default setting is to restore the file(s) to the original location they were backed up from.

**Restore file to its original location**

Upon restoration, all files will be restored to their original location.

**Restore file(s) to an alternate location**

Upon restoration, all files will be restored to an alternate location. This location can be specified by typing the path to the restoration directory in the text box or by selecting a directory by clicking on the "Browse" button that will appear to the left of the text box when the radio button is selected.

## Restore Job Filters

Properties for Restore Job:

RestoreFiltersNotificationRun AsNetwork CredentialsCustom

Wildcards

File Mask (separate by comma):

☐ Include Wildcard:

☐ Exclude Wildcard:

Include Files with these Dates and Size

From

To (including)

Modified:

☐ 4/ 9/2015

☐

☐ 4/ 9/2015

☐

Size:

☐ 0

B

☐ 0

B

Exclude Files with these Attributes

File Attribute	Description
<input type="checkbox"/> Read-Only	Files that can be read but cannot be written or dele
<input type="checkbox"/> Hidden	Files that are not included in an ordinary listing.
<input type="checkbox"/> System	Files that are part of the operating system.

OK

Cancel

Help

### Wildcards

**IncludeWildcard:** Enter all wildcards for files you want to include in the default job separated by a comma (example: \*.doc, \*.xls, \*.dat)

**ExcludeWildcard:**Enter all wildcards for files you want to include in the default job separated by a comma (example: \*.doc, \*.xls, \*.dat)

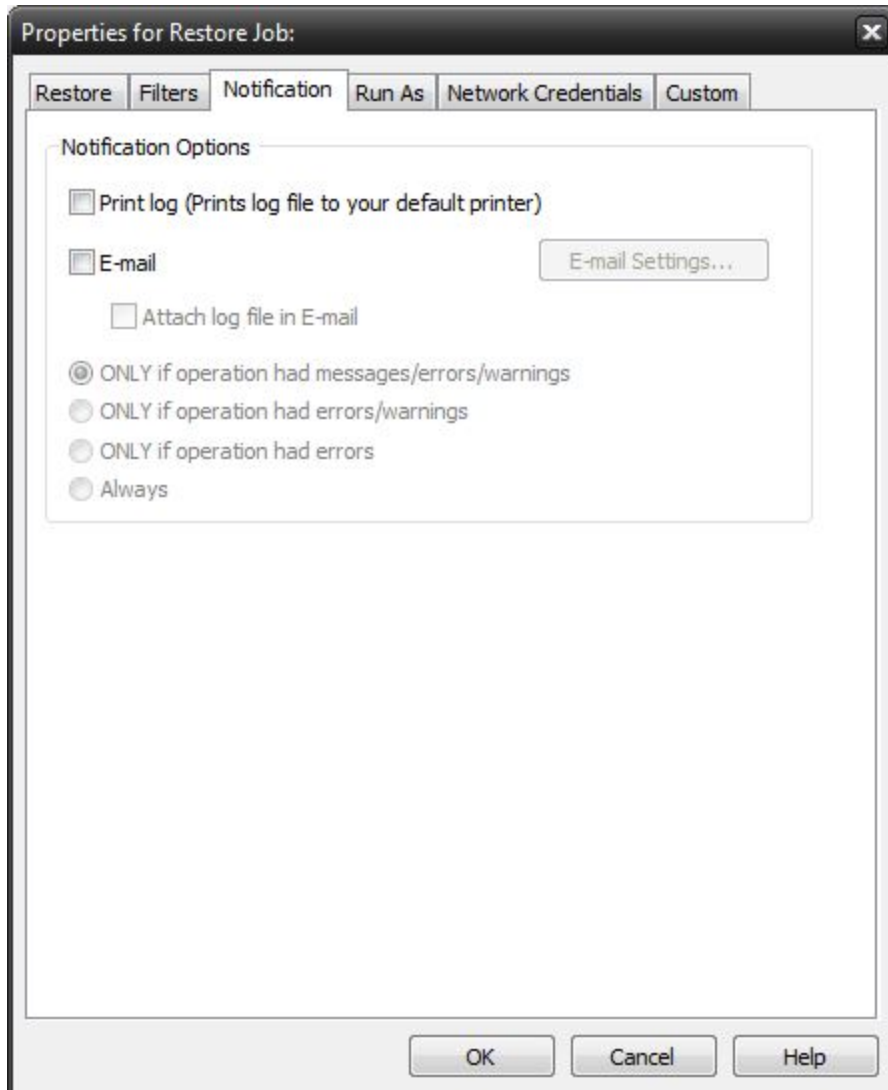
### Include Files with these Dates and Size

Under this section, you can create an include filter by selecting dates that files were last created, modified, or accessed or by there file size that you wish to ensure are included in your backup. This is helpful if you want to reduce the time or file size of a backup. You may want to exclude older files that are no longer accessed or larger files you have already backed up..

## Exclude Files with these Attributes

Under this section, you can create an exclude filter based on the file attributes: "Read Only", "Hidden" and "System". For example, if you would to exclude System or Hidden files, check the appropriate box next to the attribute.

## Restore Job Notification

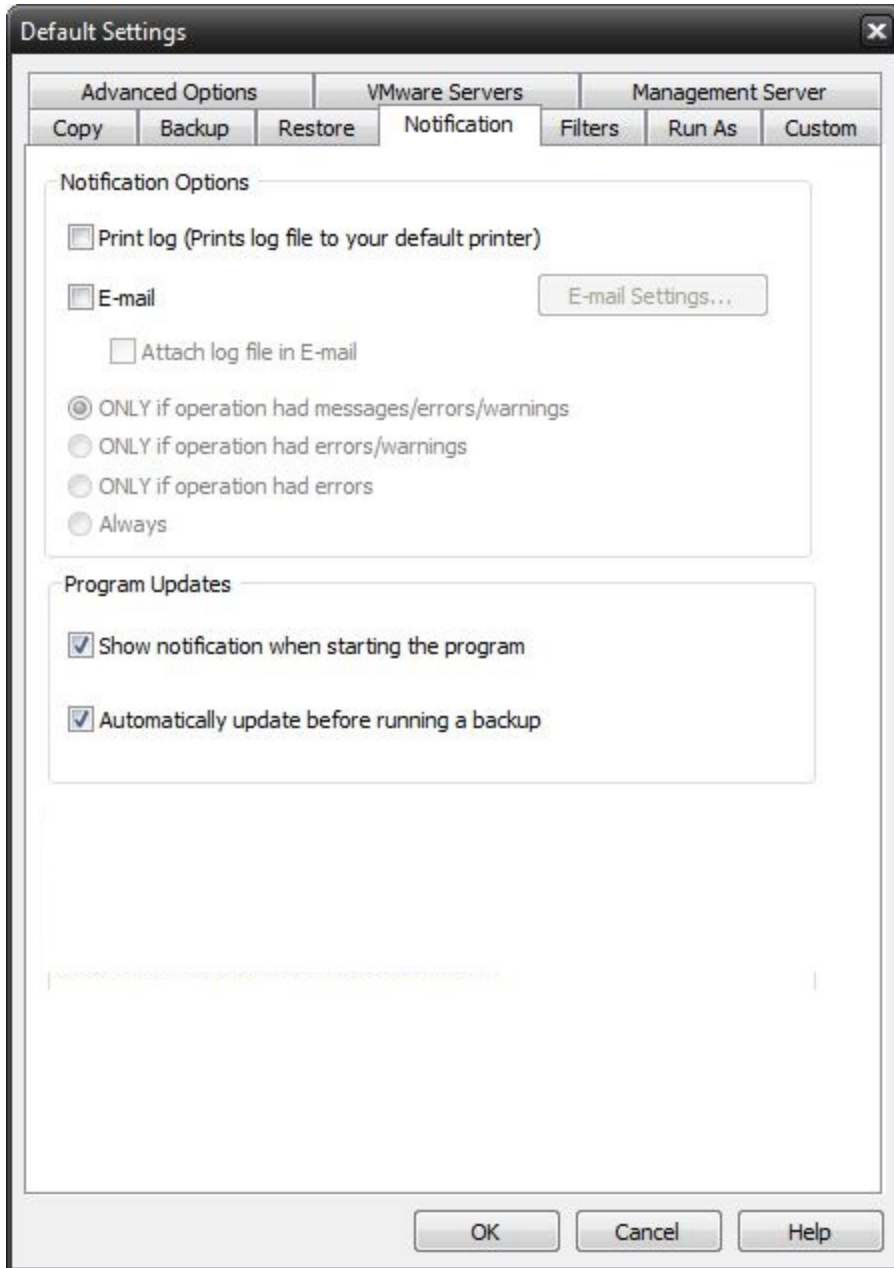


The screenshot shows a Windows-style dialog box titled "Properties for Restore Job:". It has a tabbed interface with the following tabs: "Restore", "Filters", "Notification" (which is currently selected), "Run As", "Network Credentials", and "Custom".

Inside the "Notification" tab, there is a section titled "Notification Options". It contains the following settings:

- ☐ Print log (Prints log file to your default printer)
- ☐ E-mail, with an "E-mail Settings..." button to its right.
  - ☐ Attach log file in E-mail
- ☒ ONLY if operation had messages/errors/warnings
- ☐ ONLY if operation had errors/warnings
- ☐ ONLY if operation had errors
- ☐ Always

At the bottom of the dialog box are three buttons: "OK", "Cancel", and "Help".



## Notification Options

### Email

Use this option to receive job notification in E-mail.

You have the option to allow the logs to be e-mailed to the specified email address. To utilize these settings you must first configure the e-mail options by clicking on the "E-Mail Settings" button.

### E-mail Settings

Depending on your product, you may be able to choose to use the NovaBACKUP Alerts service to send your e-mail logs or to manually enter a custom SMTP configuration.

- If you choose to use the NovaBACKUP Alerts service, the only information you need to provide is the recipient e-mail address or addresses you would like to receive notifications.
- If you choose to use a Custom SMTP service, your SMTP server information may be acquired from your System Administrator or service provider.
  - You will need to input a valid e-mail addresses for both the sender and the recipient.
  - These can be the same e-mail address.
  - If your SMTP server requires authentication, you may do so by tagging the checkbox for authentication and supplying your user name and password.

### **NovaBACKUP Alerts**

If your product supports it, you may have the ability to choose the NovaBACKUP Alerts service to send your e-mail notifications. The NovaBACKUP Alerts service is a pre-configured email notification service.

\* It is not required to use this service and you should check with your System Administrator to see if sending e-mail notifications through a 3rd party service is allowed in your organization.

\* By using the NovaBACKUP Alerts service, you are agreeing to our End-User Licensing Agreement and Privacy Policies.

**Configure E-mail Settings**

The following options are used to configure sending logs via e-mail. E-mail is delivered via SMTP only. A SMTP server must be specified along with a valid sender and recipient e-mail addresses.

Choose notification service

☒ NovaBACKUP Alerts ☐ Custom SMTP

User Information

Your Name:

E-Mail Address:

Server Information

SMTP Server Name:

SMTP Server Port:

☐ Use SSL

☐ My SMTP server requires authentication

User Name:

Password:

Retries:

Timeout Interval (in Seconds):

Recipient Information

Please use semicolons (;) to separate multiple e-mail addresses.

To:

CC:

Testing Your Email Settings...

After you have completed filling out the information above, you can test your email settings by pressing the Test Email Settings button.



Be sure to test your settings by clicking the "Test Email settings" button

## Print Log

Here, you have the option to print the log automatically to your default printer.

## Notification Conditions

- ONLY if operation had messages/errors/warnings
- ONLY if operation had errors/warnings
- ONLY if operation had errors
- Always



## Restore Job Run As

The screenshot shows a Windows-style dialog box titled "Properties for Restore Job:". It has a tabbed interface with the following tabs: "Restore", "Filters", "Notification", "Run As" (which is the active tab), "Network Credentials", and "Custom". The "Run As" tab contains the following elements:

- A label: "When running a job, login using this account"
- Two radio buttons:
  - ☒ Run as logged in user
  - ☐ Run as specific user
- A text input field labeled "Domain Name".
- A text input field labeled "User Name".
- A text input field labeled "User Password".
- A button labeled "Check Credentials" (disabled).

At the bottom of the dialog box are three buttons: "OK", "Cancel", and "Help".

### When running a job, login using this account

#### Run as logged in user:

Run the job using the Windows login credentials in effect at that time.

#### Run as specific user:

Run the job using the specified credentials.

**Domain Name:** The domain name you are logging into.

**Run as User Name:** The user name you want the job to run as.

**Password:** The password for the account you want the job to run as.



**Note:** The account information entered here is usually account you use to login to windows. However, you may need to use a different account when backing up network/shared drives.



**Important:** If you have entered credentials you must click the "Check Credentials" button to validate the account you have entered before proceeding forward.

**Restore Job Network Credentials**

Properties for Restore Job: ✕

Restore | Filters | Notification | Run As | Network Credentials | Custom

Use this option to grant access to a network location, such as a NAS device or network share with a specific username and password.

Domain Name:

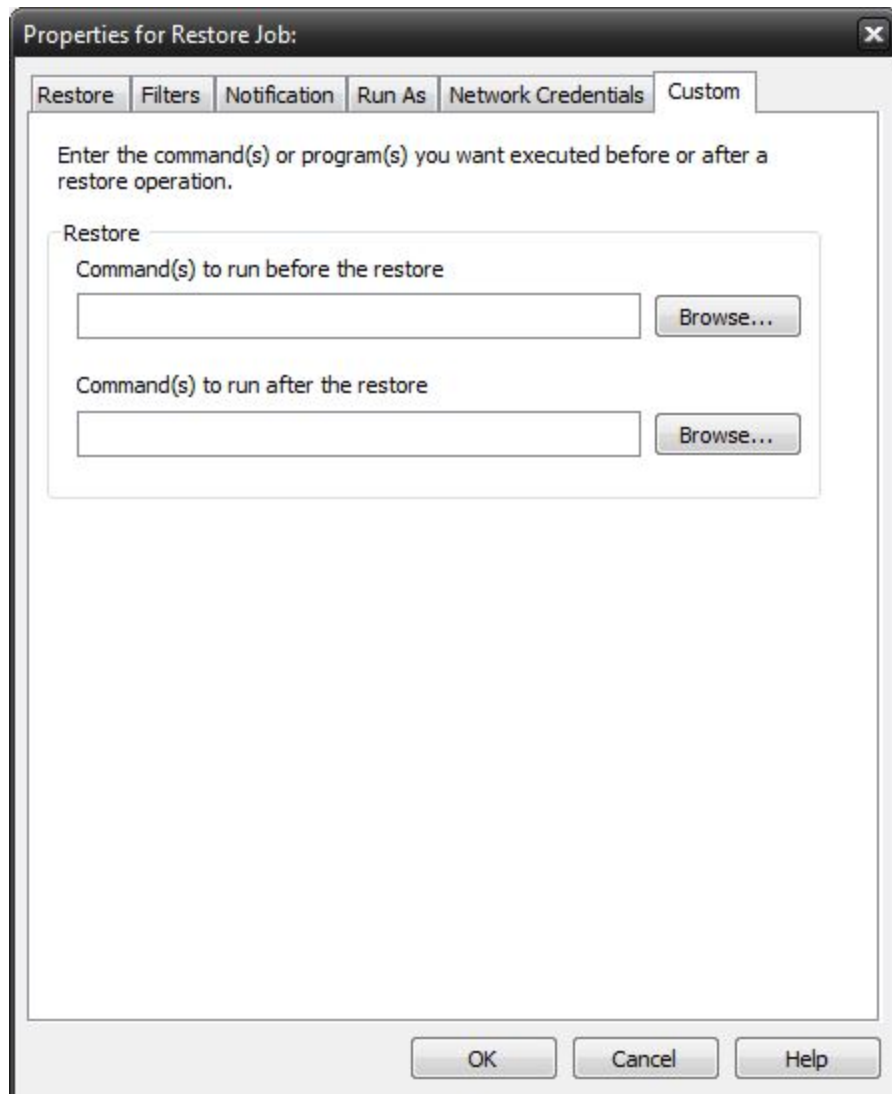
User Name:

User Password:

OK | Cancel | Help

This option may be used to access devices on the network which require different credentials than the defaults. You may use different credentials for this purpose than those set in the "Run As" Tab.

## Restore Job Custom Commands



Properties for Restore Job: [X]

Restore | Filters | Notification | Run As | Network Credentials | Custom

Enter the command(s) or program(s) you want executed before or after a restore operation.

Restore

Command(s) to run before the restore

Browse...

Command(s) to run after the restore

Browse...

OK Cancel Help

This feature enables a command to run before or after a restore job

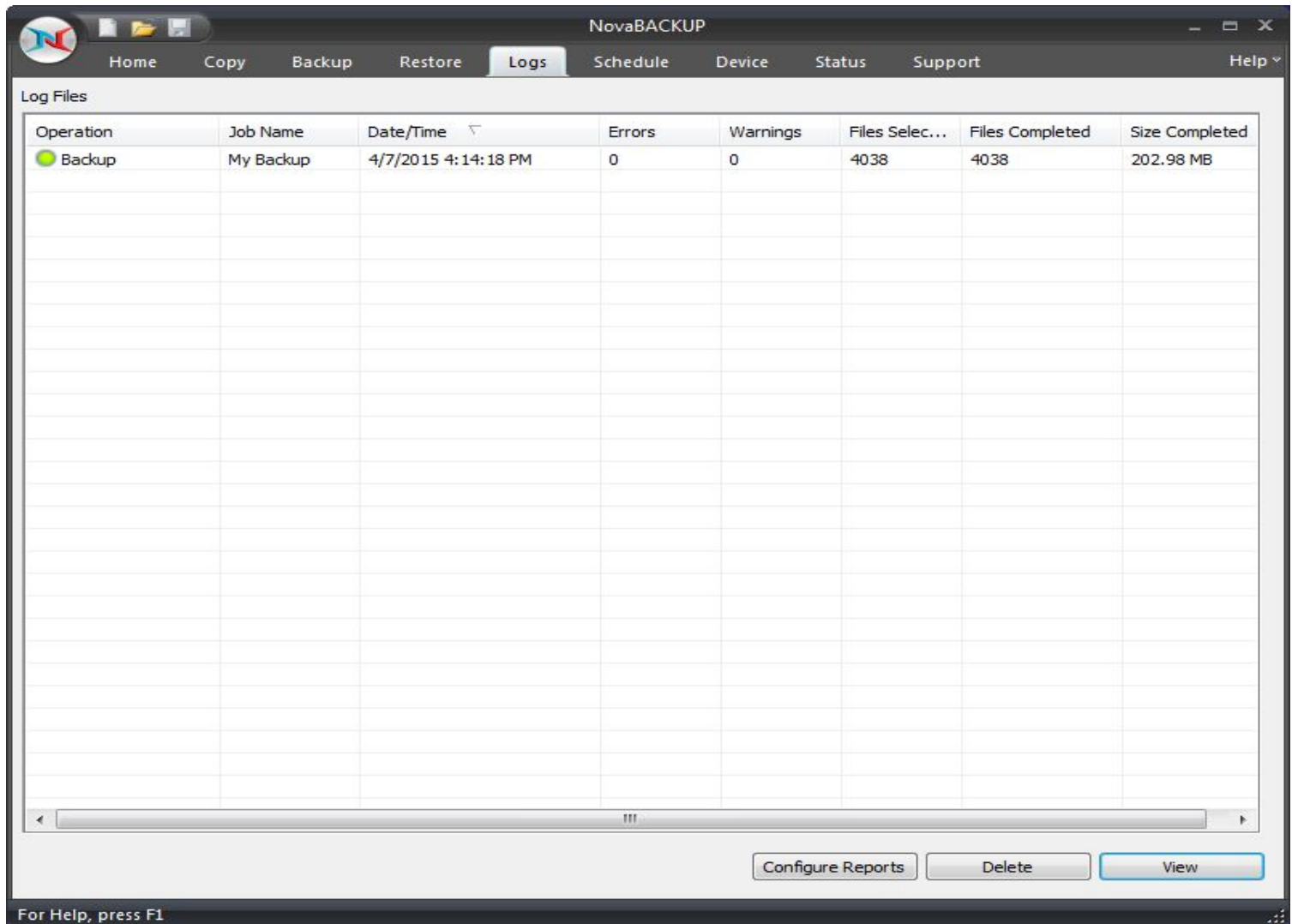
To select which program or command you would like to run before or after the copy operation, simply browse to the program or command using the "Browse" button.



The benefits of this feature are numerous. For instance, one would be able to stop Antivirus scanning by issuing a command to their Anti-virus program prior to NovaBACKUP beginning the restore job. Alternatively, a command can be issued at the end of the job to begin an anti-virus scan. Also one could issue a command to close a database at the beginning of a job and reopen it at the end of a job.

## Logs Tab

From here, you can quickly determine the status of a Copy, Backup or Restore job that was performed.



The columns in the summery view include:

**Operation:** Includes - Copy, Backup, Restore & Import.

You can quickly determine the status of the backup by the color-coded icon next to each operation:

- Operation completed successfully
- Operation completed, but had warnings
- Operation had errors

**Job Name:** The name of the job for this log file

**Date/Time:** The Date & Time the specific job was run

**Errors:** The number of errors encountered after running the job

**Warnings:** The number of warnings encountered after running the job

**Objects Selected:** The number of objects selected before running the job

**Objects Completed:** The number of objects successfully completed after running the job

**Size Completed:** The total size of all objects successfully completed after running the job



You can quickly sort the logs view by clicking on the appropriate column heading at the top of the window

## Button Functions

### Configure Reports

Click this button to use the [summary reports](#) feature.

### Delete Button

To delete a log file, simply select the log file and press the *Delete* button. To delete multiple log files, you may select more than one by using the Shift and/or Ctrl buttons on your keyboard to select the logs and pressing the Delete button.

### View Button

To view the log file, select the log you would like to open and press the View button. Alternatively, you may also simply double-click the log file you want to view. For further details, see the [Using the Logs](#) section.

## Viewing the Logs

### Job Summary section

The top half of the log viewer displays the job summary. This section lists settings which apply to the job and a summary of the job status. A disabled setting is marked with a red 'X', and an enabled settings is marked with a checkmark.

### Events section

The bottom half of the log viewer displays the job events. There are four types of events: Error, Warning, Informational, and Files. Each type can be shown or hidden by clicking its associated button.

When the log is first opened, the file list is not displayed. To see the list, click the 'Files' button. Each file entry in the list can be expanded to display additional details about that file.

### Saving as a file

Logs displayed in the viewer can be saved as either HTML or Text files.

Click the 'save' icon at the top left of the viewer window. Browse to the desired location to save the file. Enter the filename, select 'r;HTML' or 'r;TXT' file type, then click the 'Save' button.

### Printing

Click the print icon at the top left of the viewer window to launch a print preview window displaying the html formatted log.

Use page settings to adjust how the printed log will look. For example, the 'Print Background Colors and Images' option is disabled by default, but should be checked to print the log as shown. Access page settings by clicking the gear icon at the top of the print preview window.

The log viewer supports printing a file list of up to 500 entries. To print a log containing more than 500 file entries, you must click the 'files' button to hide the file list if it is currently displayed. To print a log containing over 500 file entries, save the log as a .txt file then use a text editor to open and print the file.

### **Opening a different log**

After the log viewer is opened, click the 'open' icon at the top left of the viewer window to open a new log. This will display the 'open file' dialog. Browse to the log file to view, then click the 'open' button to view the log.

## **Summary Reports**

Summary reports are scheduled reports which provide an aggregated view of recent jobs performed by NovaBACKUP. Summary reports include information about backup jobs such as:

- When the job was performed
- When the job finished
- The destination of the data
- The job type
- Whether the job was scheduled or run manually
- The number of files selected for backup and the number of files completed
- The total size for the job once completed

## **Configure Reports**

**Configure Summary Reports**

Summary Reports are scheduled e-mails containing information about all NovaBACKUP activity for the desired time period.

Global report options

Select time to send reports: 10:00:00 AM

SMTP Server Settings

**Daily** Weekly Monthly

☐ Enable daily summary report

"To" email addresses:

"CC" email addresses:

☐ Print report with default printer

Save... Cancel

## Global report options

### Scheduled time

The selected time is when any / all reports will be sent. If multiple reports are scheduled to be sent on a particular day, they will be sent individually.

### SMTP Server settings

The SMTP server settings for all reports to be sent with.

Note: Summary Reports default to using the new NovaBACKUP Alerts service.

### Daily Reports

The daily report sends a report which summarizes the last 24 hours since the scheduled time.

#### Enable daily summary report

Check this box to enable or disable the daily summary report

**To / CC addresses**

Enter the e-mail addresses you wish to receive the report. Separate multiple addresses with a semicolon (;).

**Print report with default printer**

Print the report with the default printer (if available)

**Weekly Reports**

The weekly report sends a report which summarizes the last 7 days since the scheduled time.

**Enable weekly summary report**

Check this box to enable or disable the weekly summary report

**To / CC addresses**

Enter the e-mail addresses you wish to receive the report. Separate multiple addresses with a semicolon (;).

**Day of week to send reports**

Choose which day of the week the report is sent.

**Print report with default printer**

Print the report with the default printer (if available)

**Monthly Reports**

The monthly report sends a report which summarizes the last month since the scheduled time.

Note: If the current month does not have this date available, the report will process on the 1st of the next month.

**Enable monthly summary report**

Check this box to enable or disable the monthly summary report

**To / CC addresses**

Enter the e-mail addresses you wish to receive the report. Separate multiple addresses with a semicolon (;)

**Print report with default printer**

Print the report with the default printer (if available)



## Filters Tab

**Default Settings**

Advanced Options | VMware Servers | Management Server

Copy | Backup | Restore | Notification | **Filters** | Run As | Custom

**Wildcards**

File Mask (separate by comma):

☐ Include Wildcard:

☐ Exclude Wildcard:

**Include Files with these Dates and Size**

	From	To (including)
Created:	<input type="checkbox"/> 4/ 9/2015 <input type="button" value="Calendar"/>	<input type="checkbox"/> 4/ 9/2015 <input type="button" value="Calendar"/>
Modified:	<input type="checkbox"/> 4/ 9/2015 <input type="button" value="Calendar"/>	<input type="checkbox"/> 4/ 9/2015 <input type="button" value="Calendar"/>
Accessed:	<input type="checkbox"/> 4/ 9/2015 <input type="button" value="Calendar"/>	<input type="checkbox"/> 4/ 9/2015 <input type="button" value="Calendar"/>
Size:	<input type="checkbox"/> <input type="text" value="0"/> <input type="button" value="B"/> <input type="button" value="v"/>	<input type="checkbox"/> <input type="text" value="0"/> <input type="button" value="B"/> <input type="button" value="v"/>

**Exclude Files with these Attributes**

File Attribute	Description
<input type="checkbox"/> Read-Only	Files that can be read but cannot be written or deleted.
<input type="checkbox"/> Hidden	Files that are not included in an ordinary listing.
<input type="checkbox"/> System	Files that are part of the operating system.

OK Cancel Help

## Wildcards

**Include Wildcard:** Enter all wildcards for files you want to include in the default job separated by a comma (example: \*.doc, \*.xls, \*.dat)

**ExcludeWildcard:** Enter all wildcards for files you want to include in the default job separated by a comma (example: \*.doc, \*.xls, \*.dat)

### Include Files with these Dates and Size

Under this section, you can create an include filter by selecting dates that files were last created, modified, or accessed or by there file size that you wish to ensure are included in your backup. This is helpful if you want to reduce the time or file size of a backup. You may want to exclude older files that are no longer accessed or larger files you have already backed up..

### Exclude Files with these Attributes

Under this section, you can create an exclude filter based on the file attributes: "Read Only", "Hidden" and "System". For example, if you would to exclude System or Hidden files, check the appropriate box next to the attribute.

## Online Storage Devices

NovaBACKUP includes the ability to backup to a number of online storage devices including FTP, Amazon's Simple Storage Service (S3) and NovaStor Web Storage Service (xSP).

Once you have configured an online storage device, you can utilize that device just as you would a local device. You will be able to perform backup and copy jobs to your configured online storage devices as well as local devices adding additional levels of protection to your data by permitting both local and remote backups to be performed.

## Configuring FTP Storage Device



Select "FTP Store" from the "Add Device" option drop down. This will display the FTP properties dialog

**FTP Properties**

General | **Device Settings**

Device:

Select Connection Type:

- ☒ Normal
- ☐ FTP over SSL/TLS (FTPS)
- ☐ SSH/SFTP
  - ☒ Password authentication
  - ☐ Key authentication

Server Address  Port

☐ Use Passive Mode

☐ Anonymous Access

Backup directory

Username:

Password:

Private key file path  ...

Private key password if encrypted

**Device:** Enter the name for this device

**Server Address:** Enter the DNS Name or IP Address of the FTP server. Check the "Use Passive Mode" if required.

### ***Login Settings***

**Anonymous Access:** Check this option if your server supports this option.

**Use FTP Over SSL/TLS (FTPS):** Check this option to enable a secure FTPS connection.

**Use SSH/SFTP:** Check this option to Use the SSH File Transfer Protocol. You then must select either the password or key authentication type. If choosing selecting key authentication, the related entries to define the key will become enabled.

**Username:** Enter the username for your FTP account on this server

**Password:** Enter the password for your FTP account on this server

**Backup Directory:** Enter in the directory you want your backups stored in

Click "Check Credentials" to confirm your settings

## Configuring S3 Storage Device

Select "Amazon Simple Storage Service " from the "Add Device" option drop down. This will display the S3 properties dialog



S3 Properties

General Device Settings

If you don't already have an Amazon account, visit:  
<http://aws.amazon.com/s3>

Device Name: Amazon Simple Storage Services.0

Access Key ID:

Secret Access Key:

Check credentials

Bucket Name:

Backup Directory:

Note: If you do not specify a bucket name, the default of "StoragePort" will be used.

OK Cancel Help

**Device:** Enter the name for this device.

**Access Key ID:** Enter the Amazon S3 Access Key ID for your account login.

**Secret Access Key:** Enter the Amazon S3 Secret Access Key for your account login.

Click "Check Credentials" to confirm your settings for Access Key ID and Secret Access Key.

**Bucket Name:** Enter the name of the S3 Bucket you want your data stored in.

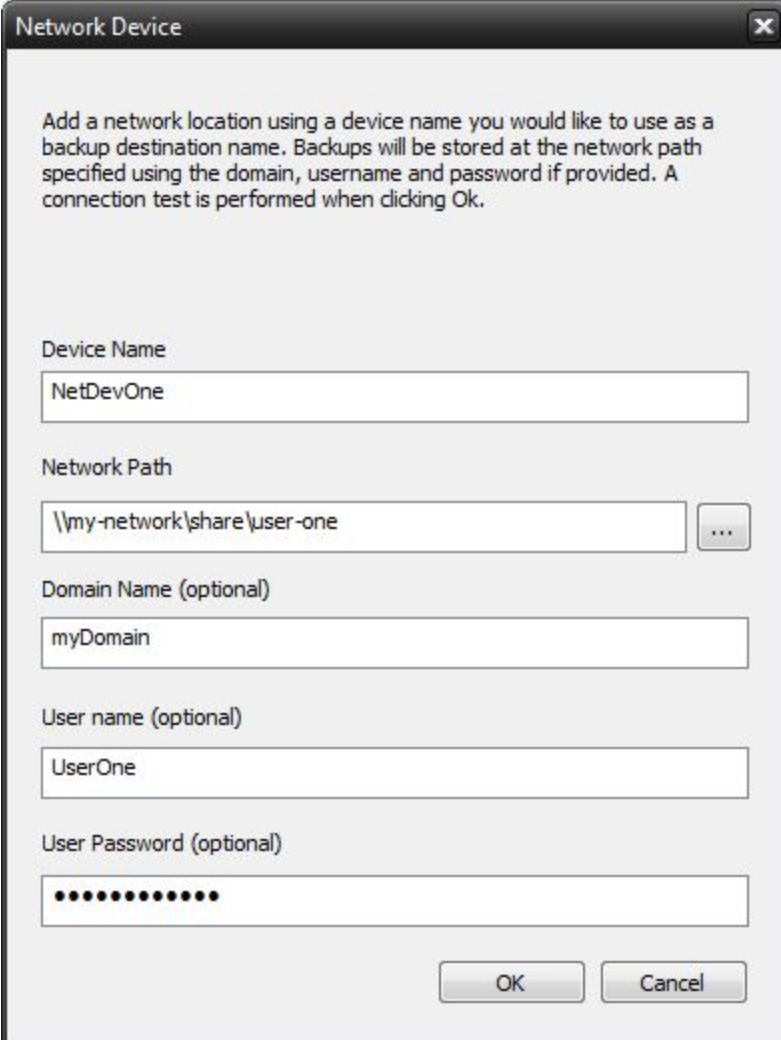
**Backup Directory:** Enter the directory you want your data stored within the S3 Bucket.

## Network Device Overview

A network device may be used in cases where the user wishes to refer to a network location and related permissions as a named device for convenient reference like any other backup device. For example you may wish to store backups to \\my-net-work\share\user-one along with its required username and password credentials, but would like to refer to this using one simple name, such as "NetUserOne". Network devices provide this convenience and allow several different named devices to exist as may be desired for any configuration.

Network devices may be created by clicking on "Add Network Device" in the home tab view, or by clicking the "Add" button in the device tab view.

## Network Device Settings

A screenshot of a 'Network Device' dialog box. The title bar says 'Network Device' with a close button. The main text area contains instructions: 'Add a network location using a device name you would like to use as a backup destination name. Backups will be stored at the network path specified using the domain, username and password if provided. A connection test is performed when clicking Ok.' Below this are five input fields: 'Device Name' with 'NetDevOne', 'Network Path' with '\\my-network\share\user-one' and a browse button, 'Domain Name (optional)' with 'myDomain', 'User name (optional)' with 'UserOne', and 'User Password (optional)' with masked characters. At the bottom are 'OK' and 'Cancel' buttons.

Network Device

Add a network location using a device name you would like to use as a backup destination name. Backups will be stored at the network path specified using the domain, username and password if provided. A connection test is performed when clicking Ok.

Device Name

NetDevOne

Network Path

\\my-network\share\user-one

Domain Name (optional)

myDomain

User name (optional)

UserOne

User Password (optional)

.....

OK Cancel

This screen is displayed when adding a network device, or when right clicking on the device listed in the device tab to view the its properties. The following values may be entered, some of which are optional as noted.

### Device name

This name entered here is used to identify the device. This name will appear when devices are listed to reference this device throughout the application.

### Network Path

This is the path where backups are to be stored using this device.

### Domain Name

This optional parameter is used to specify the domain for the network path. When no value entered the current domain, if any, will be in effect.

### User Name

This optional parameter is used to specify the user who has permission to access the network path.

#### **User Password**

This optional parameter is used to specify the user's password who has permission to access the network path.

### **xSP Storage Device Overview**

The xSP storage device is used for backup to an online server.

To access settings first select the device tab.

To add a new device click the Add button then select the xSP device type.

To edit an existing device select its name in the device list then click the properties button, or right click then select properties.

The configure screen will be displayed when adding a new device or selecting properties. Use the configure screen to edit all settings for the xSP device.

Click Test Connection if you wish to just test the specified settings.

Click OK to commit the settings or Cancel to avoid making changes.

### **xSP Account Settings**

**Configure Device**

Account | Security | Advanced | Staging | Proxy | Restore

**Device Name**

Name for this configuration:  
xSP device.1

**Backup server location**

Use these settings for transferring data to a Backup Server on the Internet or on a local Intranet.

Server Name or IP Address:

**Backup server authentication**

Use these settings to configure the username and password for your account on the backup server.

Specify credentials for authentication

Username:

Password:

Re-enter Password:

☐ Use my current Windows login credentials

Test Connection OK Cancel Help

### Device Name

- Name for this configuration

This field is used to specify any name you wish to identify the device.

### Backup server location

- Server Name or IP Address

This field is used to specify the IP address or the host name of the backup server. If this value is already populated, you can disregard this entry. If this value is unknown, it can be obtained from the network administrator or backup service provider.

### Backup server authentication

To enter specific credentials:

- Username: Enter in the unique username used to access the backup server.
- Password: This is your logon password

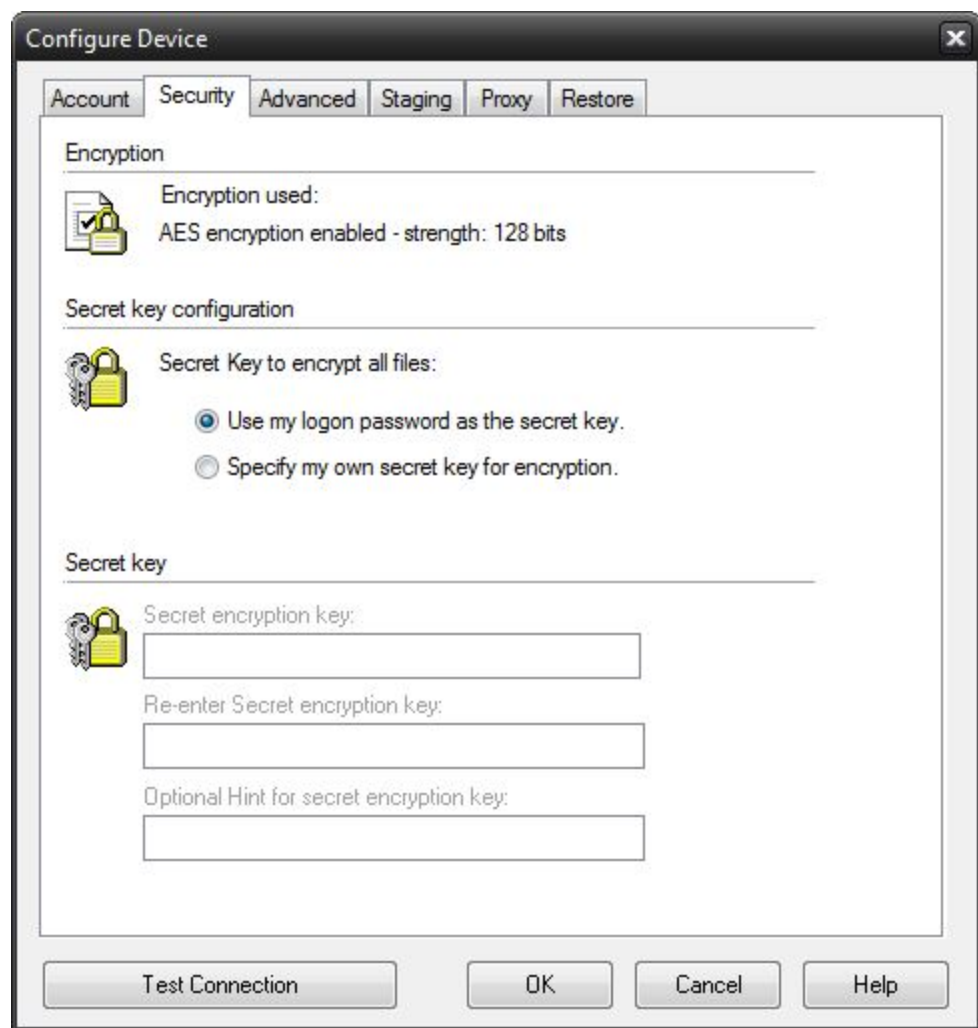


- Re-Enter Password: Re-enter your password to confirm

To use your current Windows login credentials:

- Selecting this option will use the current Windows login credentials for authentication on the backup server.

## xSP Security Settings



The screenshot shows the 'Configure Device' dialog box with the 'Security' tab selected. The dialog has five tabs: 'Account', 'Security', 'Advanced', 'Staging', 'Proxy', and 'Restore'. The 'Security' tab contains three sections: 'Encryption', 'Secret key configuration', and 'Secret key'. The 'Encryption' section shows 'Encryption used:' with a padlock icon and the text 'AES encryption enabled - strength: 128 bits'. The 'Secret key configuration' section shows 'Secret Key to encrypt all files:' with two radio buttons: 'Use my logon password as the secret key.' (selected) and 'Specify my own secret key for encryption.' The 'Secret key' section shows 'Secret encryption key:' with a text box, 'Re-enter Secret encryption key:' with a text box, and 'Optional Hint for secret encryption key:' with a text box. At the bottom are four buttons: 'Test Connection', 'OK', 'Cancel', and 'Help'.

**Configure Device**

Account Security Advanced Staging Proxy Restore

**Encryption**

Encryption used:  
AES encryption enabled - strength: 128 bits

**Secret key configuration**

Secret Key to encrypt all files:

☒ Use my logon password as the secret key.  
☐ Specify my own secret key for encryption.

**Secret key**

Secret encryption key:  
Re-enter Secret encryption key:  
Optional Hint for secret encryption key:

Test Connection OK Cancel Help

### Encryption

- Encryption used

Indicates the encryption type in effect.

### Secret Key Configuration

- Use my logon password to encrypt my files

This option will cause the backup server logon password to be used to encrypt all files.

- Set a special secret key to encrypt my files

This option will allow a private secret key of your choosing to be specified for file encryption.

Note: If the secret key is forgotten or lost, the backup server administrator may not be able to recover the data residing on the server.

### **Secret Key**

The secret key is a special text string used to encrypt all data that is stored on the server. The secret key can be changed at any time in between backups or restores. If the secret key is forgotten or lost, the backup server administrator may not be able to recover the data on the server.

- Secret encryption key

This field is the secret key. The text can be any length and is case-sensitive. The secret key should be written down and kept it in a safe place so that it is not forgotten.

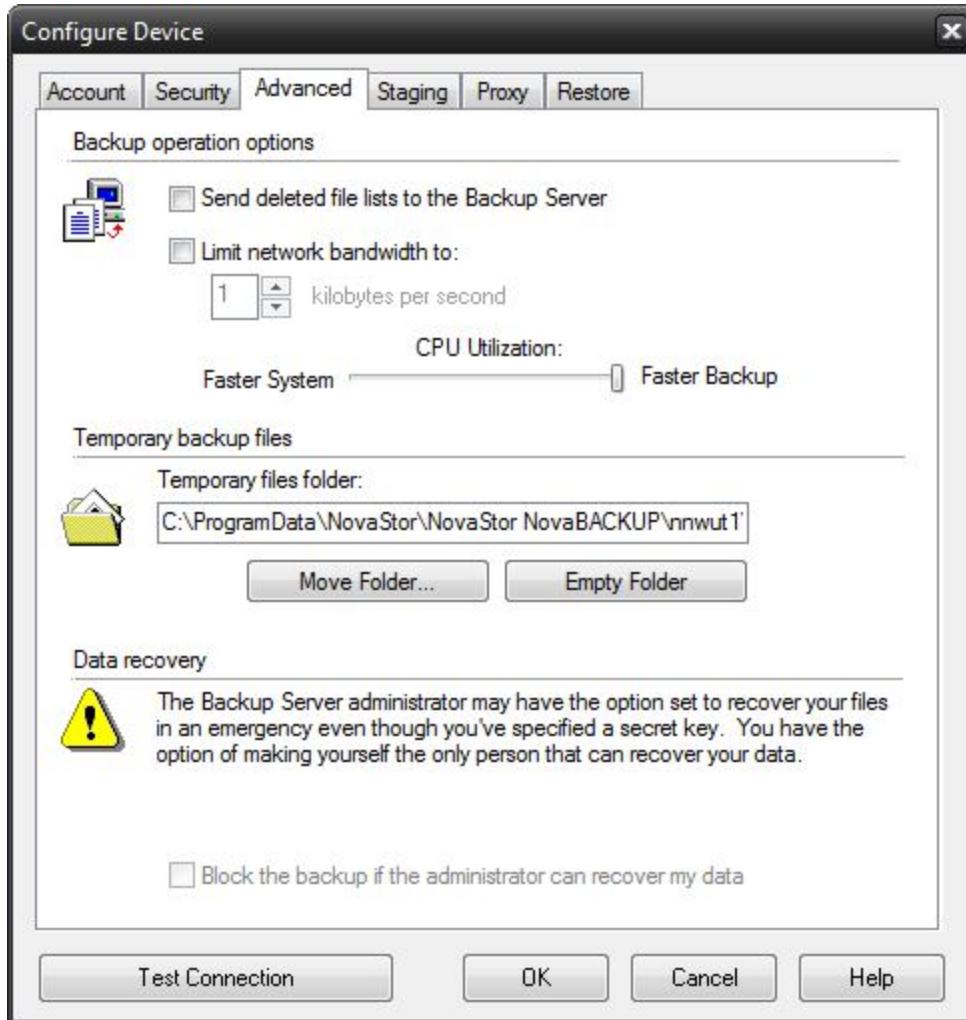
- Secret encryption key verification

This field is where the secret key should be re-typed. It is used for verification only.

- Optional hint for secret encryption key

This field is where a text phrase can be entered to allow the secret key to be remembered. If it is necessary to restore files to a fresh system and the secret key is forgotten or lost, the text phrase will be displayed so that the secret key can be recalled more easily. This field is optional. If security is a concern because somebody may be able to use the hint to guess the secret key, this field should probably be left empty.

## **xSP Advanced Settings**



### Backup operation options

- Send deleted file lists to the Backup Server

Selecting this option will allow the backup server to be notified when files are deleted or removed from the selection list. Eventually, the files will also be deleted from the backup server. This occurs after the deletion date has gone out of the scope of the allowable restore window on the backup server. The allowable restore window is configured by the backup server administrator.

- Limit network bandwidth to:

This setting can be used to reduce the amount of data sent over the network in case other processes need greater access or speed.

- CPU Utilization

This setting can be used to adjust how much CPU usage may be desired for the backup process. It may be preferable to reduce CPU usage for backup so other processes on the system can run faster.

### Temporary backup files

- Temporary files folder

This option can be used to specify where the backup "work files" should be saved. These files contain important information pertaining to backups. At any point in time, the contents of this folder can be moved to a different location or the folder can be emptied. Emptying the folder will remove all the files in the disk cache.

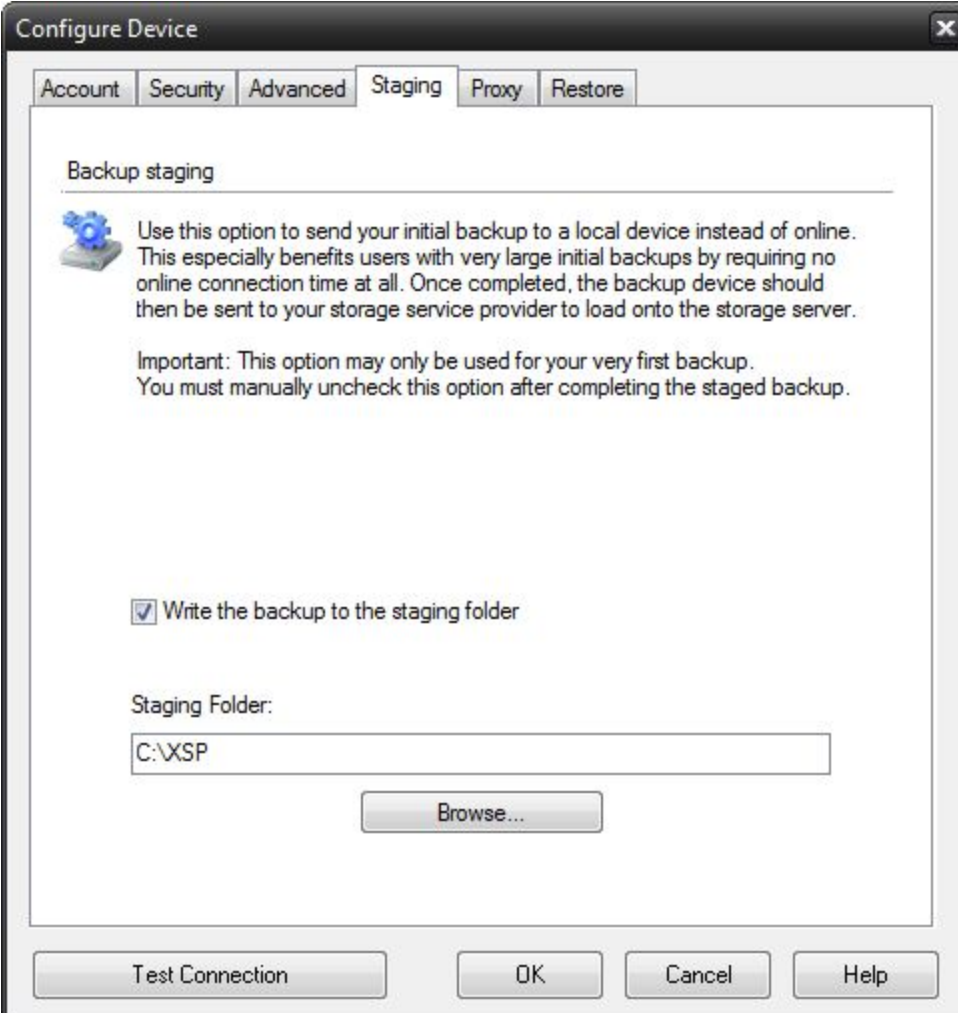
### Data recovery

- Block the backup if the administrator can recover my data

In certain situations, such as a corporate environment, it may be a requirement for the corporation to have access to all the corporation's data. The backup server administrator may set an option to allow the recovery of data without requiring the secret key.


This option should be selected to guarantee that absolutely no one else is able to recover the data for this account. IF THIS OPTION IS SET AND THE SECRET KEY IS LOST OR FORGOTTEN, THE DATA CANNOT BE RECOVERED

## xSP Staging Settings



The screenshot shows a 'Configure Device' dialog box with a dark title bar and a close button (X) in the top right corner. Below the title bar is a tabbed interface with five tabs: 'Account', 'Security', 'Advanced', 'Staging' (which is selected), 'Proxy', and 'Restore'. The 'Staging' tab contains the following content:

**Backup staging**

 Use this option to send your initial backup to a local device instead of online. This especially benefits users with very large initial backups by requiring no online connection time at all. Once completed, the backup device should then be sent to your storage service provider to load onto the storage server.

Important: This option may only be used for your very first backup. You must manually uncheck this option after completing the staged backup.

☒ Write the backup to the staging folder

Staging Folder:

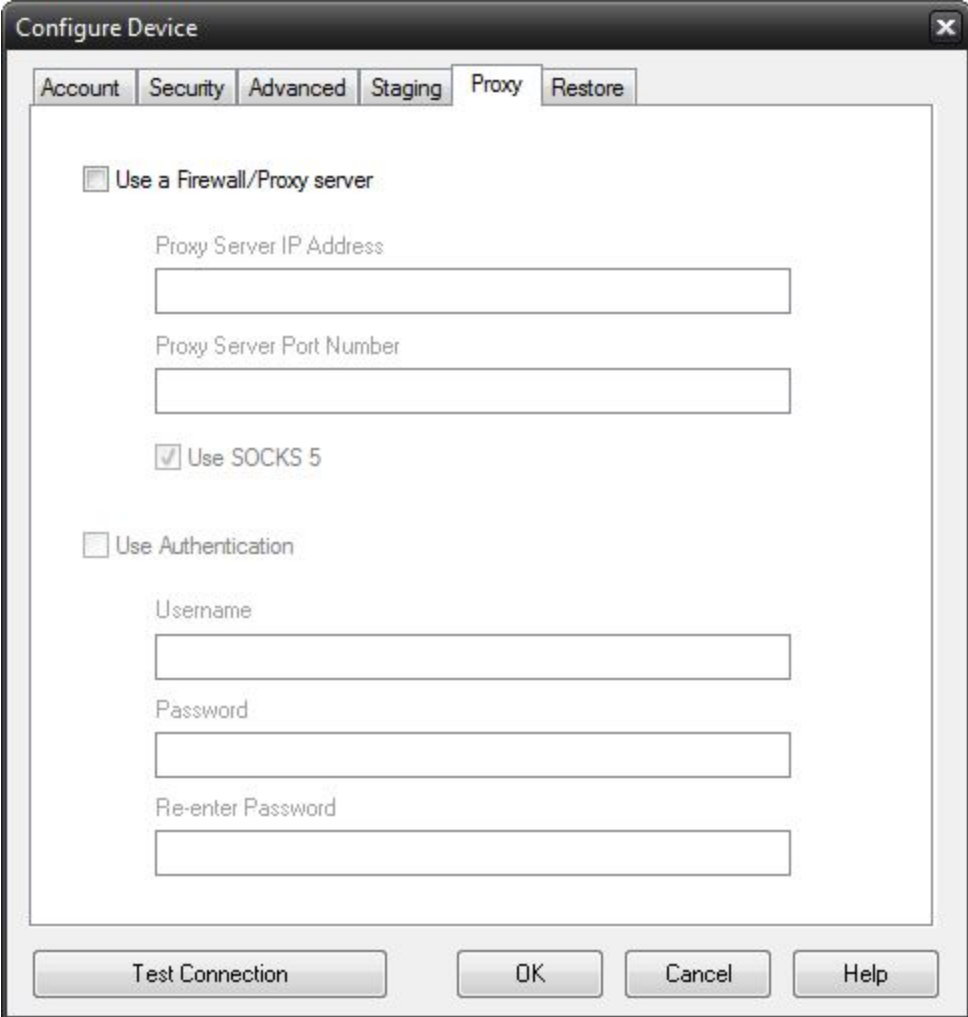
At the bottom of the dialog box are four buttons: 'Test Connection', 'OK', 'Cancel', and 'Help'.

Use this option to send your initial backup to a local device instead of online.

This especially benefits users with very large initial backups by requiring no online connection time at all. Once completed, the backup device should then be sent to your storage service provider to load onto the storage server.

Important: This option may only be used for your very first backup. You must manually uncheck this option after completing the staged backup.

## xSP Proxy Settings



The screenshot shows a 'Configure Device' dialog box with a tabbed interface. The 'Proxy' tab is selected. It contains several options and input fields for configuring a proxy connection.

**Configure Device**

Account | Security | Advanced | Staging | **Proxy** | Restore

☐ Use a Firewall/Proxy server

Proxy Server IP Address

Proxy Server Port Number

☒ Use SOCKS 5

☐ Use Authentication

Username

Password

Re-enter Password

Test Connection | OK | Cancel | Help

Use this option to connect to your backup server through a proxy server connection.

## xSP Restore Settings



Use local restore if you wish to restore from server storage that has been copied to your computer rather than connecting to the backup server online.

### **Restore from local storage**

This must be checked to enable local restore mode.

### **Storage Folder**

Enter the path where you have copied the server storage or use the browse button to locate that path for you.

## **xSP FastBIT Settings**



This option is provided so that you can easily upgrade to the latest FastBIT implementation. This tab will only appear if you are not already using FastBIT3.

## File Selection, System State & Registry

### Overview

#### Security Information Backups

Depending on your system configuration, you can have special security configurations for files, drives and/or subdirectories. NovaBACKUP has full support for this information. This data is backed up each time you backup your registry. Please note that this information will **ONLY** be restored if you restore your registry, it is not stored on a file-by-file basis due to potential security issues.

## Details on Backing Up System State Data

System state data is comprised of the following files:

- Boot files, including the system files, and all files protected by Windows File Protection (WFP).
- Active Directory (on a domain controller only).
- Sysvol (on a domain controller only).
- Certificate Services (on certification authority only).
- Cluster database (on a cluster node only).
- The registry.
- Performance counter configuration information.
- Component Services Class registration database.

The system state data can be backed up in any order. Restoration of the system state replaces boot files first and commits the system hive of the registry as a final step in the process.

System state backup and restore operations include all system state data: you cannot choose to backup or restore individual components due to dependencies among the system state components. However, you can restore system state data to an alternate location in which only the registry files, Sysvol directory files, and system boot files are restored. The Active Directory database, Certificate Services database, and Component Services Class Registration database are not restored to the alternate location.

You cannot change which components of the system state are backed up.

**NOTE:** *If you have more than one domain controller in your organization and Active Directory is replicated to any of these other servers, you might have to authoritatively restore any Active Directory data that you want to restore.*

For more information about authoritative restores, see the Microsoft® Windows® 2000/2003 Server Resource Kit Distributed Systems Guide.



*Keep the following in mind when you are backing up system state data:*

- 1. You must be an administrator or a backup operator to back up files and folders.*
- 2. You can only back up the system state data on a local computer. You cannot back up the system state data on a remote computer.*



*To select files to be backed up from other PCs on a peer to peer network, once you click on Backup, in the left window click the plus sign next to My Network Places. Then click on Entire Network, and click on Microsoft Windows Network. There, you should find the other PCs.*

*To backup to a network device, it is recommended that you select the UNC path and not the mapped drive letter. Example \\server\path and not use a drive mapping (S:\path)*



## Registry & System State Backup

In Windows®2000, Windows®2003, Windows®XP and Windows®Vista, you have the option to backup the System State with a backup. The System State will be seen as an item in the selection window while you are selecting other files and folders from the Backup Tab. All you need to do to backup the System State is to tag the checkbox next to it prior to running the backup.



**What is the System State?** *The System State is actually a combination of a few things:*

- *Boot files, including the system files, and all files protected by Windows File Protection (WFP).*
- *Active Directory (on a domain controller only).*
- *Sysvol (on a domain controller only).*
- *Certificate Services (on certification authority only).*
- *Cluster database (on a cluster node only).*
- *The registry.*
- *Performance counter configuration information.*
- *Component Services Class registration database.*

*These are the items seen in the right selection window when System State is selected.*



**Does NovaBACKUP support backing up Active Directory?** *Yes, in fact, NovaBACKUP features include the ability to backup Active Directory when you are backing up the System State.*

System State backup and restore operations include all System State data. You cannot choose to back up or restore individual components because of dependencies among the System State components. However, you can restore System State data to an altern-

ate location in which only the registry files and system boot files are restored. The Component Services class registration database is not restored to the alternate location.

## **Microsoft Exchange Plug-In**

### **Using the Microsoft Exchange Plug-in**

The Exchange server plug-in works on the following Microsoft Exchange server version: 2003, 2007, 2010 and 2013.

### **Backup using the Exchange Plug-in**

If the client is installed on one of the supported platforms listed above and you have an active Exchange plug-in, you may select your Exchange server for backup using the file selection tree or list view under the Backup Tab.

If you check the box next to the server name, all storage groups (if multiple) will be selected for backup. To select only a specific storage group, expand the Exchange Server object by clicking on the + symbol and check only the appropriate storage groups you want to backup.

Note: In order to perform a complete and accurate backup of Microsoft Exchange, you should also select the "System State" object within the same backup set. For more information, review the Backup up System State section of this help file.

### **Restore using the Exchange Plug-in**

If the client is installed on one of the supported platforms listed above and you have an active Exchange plug-in, you may restore a previous Exchange backup using the plug-in by selecting the Exchange server using the file selection tree or list view under the Restore Tab.

Note: To restore an Exchange storage group, you must mark the database as being able to be overwritten by a restore in the properties of the exchange store you want to restore using the Exchange System Manager. You also need to dismount the store. (For more information on using the Exchange System Manager, refer to your Exchange server documentation).

This will permit you to restore the exchange storage group to the original location on the original backed up machine or on a new system with the same machine name. Also note that if you are doing a full restore of exchange you need to restore the System State BEFORE you restore the Exchange Storage Group.

## **Microsoft SQL Server Plug-In**

### **Using the Microsoft SQL Plug-in**

The SQL server plug-in works on the following Microsoft SQL servers: 2005, 2008, 2010 and 2012.

### **Backup using the SQL Plug-in**

If the client is installed on one of the supported platforms listed above and you have an active SQL plug-in, you may select your SQL server for backup using the file selection tree or list view under the Backup Tab.

If you check the box next to the server name, all databases will be selected for backup. To select only a specific database, expand the SQL Server object by clicking on the + symbol and check only the appropriate databases you want to backup.

### **Restore using the SQL Plug-in**

If the client is installed on one of the supported platforms listed above and you have an active SQL plug-in, you may restore a previous SQL backup using the plug-in by selecting the SQL server using the file selection tree or list view under the Restore Tab.

If you check the box next to the server name, all databases will be selected for restore. To select only a specific database, expand the SQL Server object by clicking on the + symbol and check only the appropriate databases you want to restore. This will permit you to restore the SQL database(s) to their original location on the original backed up machine or on a new system with the same machine name.

## **VMware Plug-In**

### **Using the VMware Plug-in**

The computer with NovaBACKUP installed needs to have connectivity to either the vSphere server or the ESX(i) server. NovaBACKUP can alternatively be installed on the vSphere server or on a Virtual Machine. Version 4.1, 5.0, 5.1 and 5.5 of ESX(i) and vSphere licensed with the vStorage APIs are the currently supported versions of software with which the VMware plug-in for NovaBACKUP can communicate.

### **Backup using the VMware Plug-in**

Clicking on each ESX(i) or vSphere server node will display the Virtual Machines that are available to backup. These machines may be backed up individually, or all of them may be backed up at once.

You must specify the server name and user credentials for each VMware server you want to appear in the backup file selection tree. This is provided in the VMware Servers tab in the program default settings screen.

### **Restore using the VMware Plug-in**

Restoring a Virtual Machine is quite easy. Simply select the Virtual Machine to restore in the restore screen and click the restore button.

### **More Information**

For additional information such as techniques for differential backup and restore please download the document detailing all the VMware plug-in features.

## **Hyper-V Plug-In**

### **Using the Hyper-V Plug-in**

The Hyper-V plug-in supports direct backup and restore of Hyper-V virtual machines which reside on the same system as your backup client. The virtual machines can be either running or stopped when doing a backup.

### **Backup using the Hyper-V Plug-In**

If you have an active Hyper-V plug-in, you may select your Hyper-V virtual machines for backup using the file selection tree or list view under the Backup Tab.

If you check the box next to the Hyper-V name, all virtual machines will be selected for backup. To select only a specific virtual machine, expand the Hyper-V object by clicking on the + symbol and check only the virtual machines you want to backup.

### **Restore using the Hyper-VPlug-in**

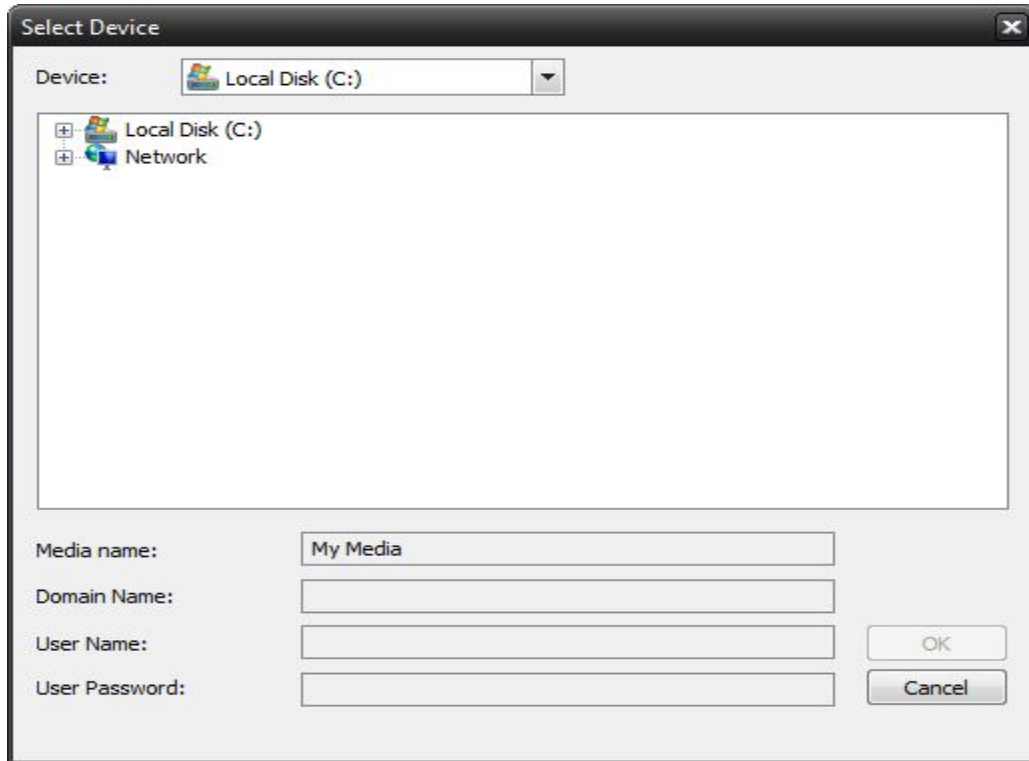
If you have an active Hyper-V plug-in, you may restore a previous Hyper-V backup by selecting the Hyper-V name using the file selection tree or list view under the Restore Tab.

If you check the box next to the Hyper-V name, all virtual machines will be selected for restore. To select only a specific virtual machine, expand the Hyper-V object by clicking on the + symbol and check only the virtual machines you want to restore. Restoring a Hyper-V virtual machine will overwrite the current version of the Hyper-V virtual machine that is there.

## **Importing Backups**

Importing a backup from media may become necessary if your machine crashes or you wish to restore a backup created on one computer to another computer. The process is simple. To get the backup contents into the current, local NovaBACKUP database (and therefore be able to select files, folders and drives for restoration), follow these steps: From the Restore tab, first click on the "Import" button located near the bottom of the screen. Alternatively, you can select "Import Backup Job" from the Launch Button.

If you run the import from the Restore Tab, you will receive an Import Source selection screen. (If selecting import source from the toolbar, you will forgo this window.)



Browse to the backup file you would like to import, and select it. If your backup is on a network, browse to the network location and select the backup file. Then enter the username and password for network credentials. Click OK to switch to the job status view and start the import process.

If your import source is Tape, then you will be given a Tape Drive selection screen. Select the tape device you would like to import and press "OK." A progress window will then appear and the import process will begin immediately.



*If you are importing from a complete set of spanned media, you should always select the first piece of media as your first import. NovaBACKUP will then prompt you to insert each subsequent piece of media if required. It is necessary to have the complete backup, all media available to do the import and subsequent restore. For example; If your backup consists of 5 pieces of media and media #3 is corrupt/missing/ damaged, you will only be able to restore data from the first two pieces of media.*

After importing the media, it may be necessary to press the "Refresh" button on the Restore tab. All imported backups will appear under an "Imported Backups" heading in the Media View.



### **Importing vs. Restoring**

*It is important to know the difference between importing and restoring. The import process does NOT restore your data to your hard drive. What it simply does is import a "listing" of available data on the imported media. This information is imported into the database and enables NovaBACKUP to create a tree listing of the data in the Restore view. From there, you will be able to select the data you would like to restore from the media and complete a restoration just like you would any other restoration.*

## Command Line Options

You can use the command line and several options to run your backups and other scripts. This quick method will allow a user to input a single command into a command prompt to begin running a specific NovaBackX script. For more details please read the steps below.

Getting Started:

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1. To begin, open the START menu button and then select RUN.
2. Type CMD in the line provided by the RUN program.
3. This will open a "Command Prompt" window resembling the old Microsoft DOS.
4. Now type CD C:\program files\NovaStor\NovaStorNovaBackX
5. This will change the directory you are running commands from so that you are now in the NovaBackX installation directory, and ready to run your command.

Syntax:

---

nsCmd -u [User name] -d [Domain] -p [Password] [Options] -s [Script location]

Example 1: A basic command

nscmd -s c:\file location\backup.nbk

Example 2: Running a script specifying credentials and queuing

nscmd -u John -d Mydomain -p Password -q -s c:\file location\backup.nbk

General Options:

---

-q Use this option to allow queuing for the script.

-h This option will hide the console when the script runs.

IMPORTANT:

In Windows XP and 2003 server all scripts are saved by default in C:\Documents and Settings\All Users\Application Data\NovaStor\NovaStorNovaBackX\Scripts

In Windows Vista, the scripts are saved by default in C:\program data\application data\NovaStor\NovaStorNovaBackX\scripts

## Scripted Environment Variables

NovaBackX is able to use Windows environment variables in the script file. Though in order to use these variables you will have to manually edit the script file. User set environment variables are not available for use, just the default Windows environment variables.

Below is an example of a script excerpt using these environment variables, please notice that you have to define the variables that you want to use at the bottom of the script.

Example portion of a script file:

( . . . )

[select]

path.item.0=+\$Env Variable.item.0\$

path.numberOfItems=1

( . . . )

[device]

SessionLogicalId=0

SessionName=My Backup

SessionId=00

MediaLogicalId=0

MediaExtension=nbd

MediaName=My Media

MediaId=00

DeviceUnit=\\Server\HomeDrive\\$Env Variable.item.1\$

DeviceName=Network

DeviceId=0900dcfe0b0000f0a98187492b78000002000000

DeviceClassId=ntwk://

( . . . )

[Environment variable]

Env Variable.item.0=%USERPROFILE%

Env Variable.item.1=%USERNAME%

Env Variable.numberOfItems=2